ACER FP751 LCD

MODEL

SERVICE MANUAL

Table of Contents

1.1 Introduction 4
1.2 Operational Specification 5
1.2.1 Environment 5
1.2.1.1 Temperature 5
1.2.1.2 Humidity 5
1.2.1.3 Altitude 5
1.2.2 Transport 5
1.2.2.1 Vibration Test 5
1.2.2.2 Drop Test (with packing, non-operating condition) 5
1.2.3 Packing Configuration 6
1.2.3.1 Container Specification 6
1.2.3.2 Carton Specification 7
1.2.3.3 Pallet Specification 7
1.2.3.4 Container Carrying Capacity 8
1.2.4 Electrostatic Discharge Requirements 9
1.2.5 Safety Requirements 10
1.2.6 EMI Requirements 10
1.2.7 Reliability 10
1.2.8 Mechanical Design for TCO 99 10
1.2.9 Environment Protection Design 11
1.2.10 Acoustical Noise 11
1.3 Input / Output Signal Specification 12
1.3.1 Input Signal Requirements 12
1.3.1.1 Signal cable (Directly attached to unit) 12
1.3.1.2 Video signals 12
1.3.1.3 Sync signal 12
1.3.2 Function 13
1.3.2.1 Support timing 13
1.3.3 Number of display colors 14
1.3.4 Adjustment function 14
(A) Hot key function 14
(B) Main OSD menu 14
1.3.5 Display Power Management System (DPMS) 14
1.3.6 Plug & Play DDC1/2B Support 15
1.3.7 Power Supply Requirements 18
1.3.7.1 Input Power Requirements 18
1.3.7.2 Output Power Requirements 18

FP751 LCD Monitor Service Guide
Chapter 1 Engineering Specification

Table of Contents

1.3.7.3 AC Power Inlet 18
1.3.7.4 Input Power Cord 19
1.3.7.5 Power Management 19
1.3.8 Panel optical Characteristics 19
1.3.9 Panel Electrical Specifications 21
1.4 Functional specification 22
1.4.1 Display Quality 22
1.4.1.1 Display Data Area (with full white pattern) 22
1.4.1.2 Video Performance 22
1.4.1.3 Light Output 22
1.4.1.4 Brightness Adjustment Range 22
1.4.2 Audio Quality(Optional) 22
1.4.2.1 Preamp + Poweramp 22
1.4.2.2 Speaker Driver 22
1.4.2.3 Audio Controls 22
1.4.3 USB pure hub(Optional) 22
1.5 Physical Specifications 23
1.5.1 Physical Dimension & Appearance 23
1.5.1.1 Overall Dimensions 23
1.5.1.2 Outer Appearance 23
1.5.2 Construction and Materials on outer surface 23
1.5.3 Base 23
1.5.4 Marking & Labels 23
1.5.4.1 Reference Label (Rear panel) 23
1.5.4.2 Controls & Connectors 23
1.5.5 Packaging 23
1.5.5.1 Carton Dimension 23
1.5.5.2 Shipping Weight 23
1.5.5.3 Shipping Container 23
1.6 Maintainability Specifications 24
1.6.1 General & Requirements 24
1.6.1.1 Installation 24
1.6.1.2 Periodic Maintenance 24
1.6.1.3 Repair & Calibration 24
1.6.2 Mean Time to Repair 24
1.6.2.1 Module Level 24
1.6.2.2 Component Level 24

Table of Contents

1.6.3 Accessibility 24
1.6.3.1 General 24
1.6.3.2 Outside Cabinet, access to the following elements 24
1.6.3.3 Cover Removal, Access 24
1.6.4 Equipment & Tools Required 24
1.6.4.1 Standard Test Equipment 24
1.6.4.2 Documentation 24
1.6.5 Electrical Emission and Energy Saving summary for TCO99 25
1.6.5.1 Electrical Field(AC) 25
1.6.5.2 Magnetic Field(AC) 25
1.6.5.3 Energy Saving 25
Fig. 1 Physical Dimension Top View, Front View and Side view 26

1.1 Introduction

This specification describes a 17" color TFT LCD monitor which is supported by analog interface solution and support maximum resolution 1280x1024 at 75Hz refresh rate. It has the following features:

- User controls:
  (a) "Power on/off" switch.
  (b) "Exit" key(Back to main OSD menu or leave OSD menu).
  (c) "I-key"(Intelligent key for automatic adjustment function by pressing one button).
  (d) "Enter" key(for enter OSD sub-menu or select items.
  (e) "Wheel"(for selecting adjustable items in left/right direction and increasing / decreasing the selected item by rotating it).
- OSD window for control and information display with 6 languages selection.
- DPMS (Display Power Management System)
- Power on/off indicator.
- High quality advanced zoom function (Scaling function)
- Swivel/Tilt base(with 300 degree swivel function and up/down tilt function from 0 to +25 degree).
- DDC1/2B function supported.
- Optional USB hub supported(compliance with USB version 1.1)
- Optional audio speakers supported.

It is composed of the following materials:

- A LCD monitor
  (a)Head part:
    (1) A LCD module(ADT: L170E1).
    (2) An Inverter board.
    (3) An AC-DC board(with audio circuit)
    (4) An Interface board.
    (5) A control board.
    (6) An undetachable 15pin D-sub signal cable.
    (7) Two speakers(optional)
  (b)Base part:
    (1) Swivel/Tilt base.
    (2) An 1 upstream port/2 downstream ports USB hub(optional).
- A power cord.
- An user menu.
- Setup disk.(including .INF/.ICM/Test pattern)
- A Macintosh signal adapter(optional).
- A USB cable(optional).
- A audio cable(optional)

1.2 Operational Specification

1.2.1 Environment

1.2.1.1 Temperature

-Operating 0 to +40°C
-Non-operating -20 to +60°C

1.2.1.2 Humidity

-Operating 20% to 80% at non-condensing and less than 39°C condition
-Non-operating 5% to 95% at non-condensing and less than 39°C condition

1.2.1.3 Altitude

-Operating(without packing condition) 0 to 3,657m (12,000ft)
-Non-operating(with packing condition) 0 to 12,192m (40,000ft)

1.2.2 Transport

1.2.2.1 Vibration Test

1.2.2.1.1 Sinusoidal Vibration Test

Frequency(Hz): 2-200-2 Hz
Acceleration: 0.3 G
*Duration: 25 Minutes/ Per Axis (X, Y, and Z Axis)
Acceleration: 0.5 G at resonant frequency
*Duration: 15 Minutes/ Per Axis (X, Y, and Z Axis)
(Test passed criteria: After test, there is no electrical and mechanical damage.)

1.2.2.1.2 Random Vibration Test

10 – 200 – 10Hz, 1.04Grms, 15 min, X, Y, Z Axis. Each one time.

Frequency(Hz)	G^2/Hz(PSD Level)
2.0	0.0010
4.0	0.0300
8.0	0.0300
40.0	0.0030
55.0	0.0100
70.0	0.0100
200.0	0.0010

(Test passed criteria: After test, there is no electrical and mechanical damage.)

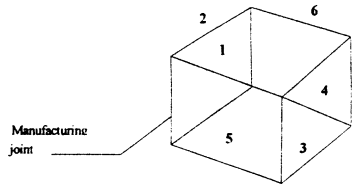
1.2.2.2 Drop Test (with packing, non-operating condition)

1.2.2.2.1 Drop Height

76 cm

1.2.2.2.2 Drop Sequence

Surface number define:
1: Top
2: Front
3: Bottom
4: Rear
5: Left
6: Right



-Corner 5-3-2 select at weakness side [the low left(or right) corner of the front panel]

-An edge drop with impact on the shortest edge radiating from corner 5-3-2

-An edge drop with impact on the next shortest edge radiating from corner 5-3-2

-An edge drop with impact on the longest edge radiating from corner 5-3-2

-A flat drop with impact on the rear

-A flat drop with impact on the front

-A flat drop with impact on the right

-A flat drop with impact on the left

-A flat drop with impact on the bottom

-A flat drop with impact on the top

(Test passed criteria: After test, there is no electrical and mechanical damage.)

1.2.3 Packing Configuration

1.2.3.1 Container Specification

a.) Shipping Container

Container Type		20"*8"*8'6" Steel	40"*8"*8'6" Steel	40"*8"*9'6" High Cube Steel
Weight (Unit: Kg)	Gross	24,000	30,480	30,480
	Tare	2,370	4,000	4,200
	Payload	21,630	26,480	26,280
Interior Measurement (Unit: mm)	Length	5,898	12,031	12,031
	Width	2,352	2,352	2,352
	Height	2,394	2,394	2,699
Volume(Cubic Meter)		33.2	67.74	76.4
Door opening (Unit: mm)	Width	2,340	2,340	2,340
	Height	2,280	2,280	2,585
Useable Interior Dimension (Deducted pallet(110mm & Operating space 50mm))	Length	5,890	12,000	12,000
	Width	2,330	2,330	2,330
	Height	2,120	2,120	2,405

b.) Air Transport

Container Type		Container (1)	Container (2)	Container (3)
		125"*96"*96"	125"*96"*118"	125"*88"*64"
Weight (Unit: Kg)	Gross	6,804	6,804	4,627
	Tare	129	129	129
	Payload	6,675	6,675	4,498
Interior Measurement (Unit: mm)	Length	3,048	3,048	3,048
	Width	2,260	2,260	2,082
	Height	2,438	2,997	1,625
Volume(Cubic Meter)		17	19	11

1.2.3.2 Carton Specification

Product Weight (Unit: KG)	Net	7.7
	Gross	10
Carton Interior Measurement (Unit: mm)	Length	550
	Width	318
	Height	589
Carton External Measurement (Unit: mm)	Length	570
	Width	338
	Height	621

1.2.3.3 Pallet Specification

a.) Dimension

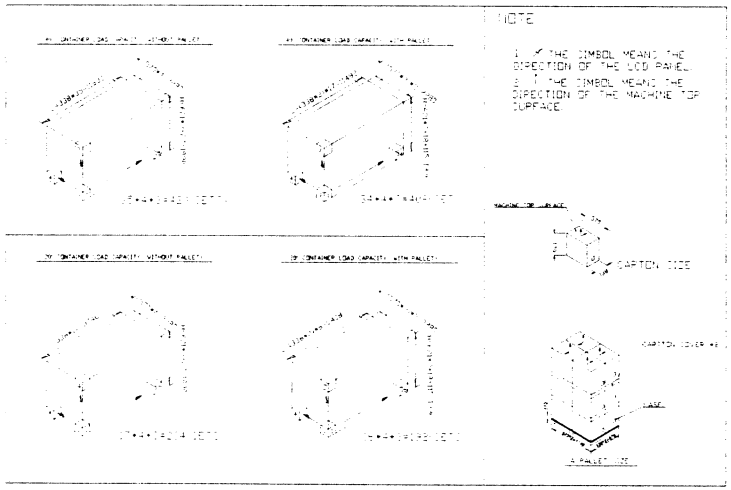
Transport Type		Pallet A	Pallet B	Pallet C
Shipping Pallet Dimension (Unit: mm)	Length	676	X	X
	Width	1140	X	X
	Height	115	X	X
Air Transport Pallet Dimension (Unit: mm)	Length	676	676	X
	Width	1140	570	X
	Height	115	115	X

1.2.3.4 Container Carrying Capacity

a.) Shipping Container

Stowing Type		Quantity of products (sets)	Quantity of Products (sets)	Quantity of pallet (sets)
		Every container	Every Pallet	Every Container
with pallet	20'	192	Pallet A: 12	Pallet A: 16
			X	X
	40'	408	Pallet A: 12	Pallet A: 34
			X	X
without pallet	20'	204	X	X
			X	X
	40'	420	X	X
			X	X

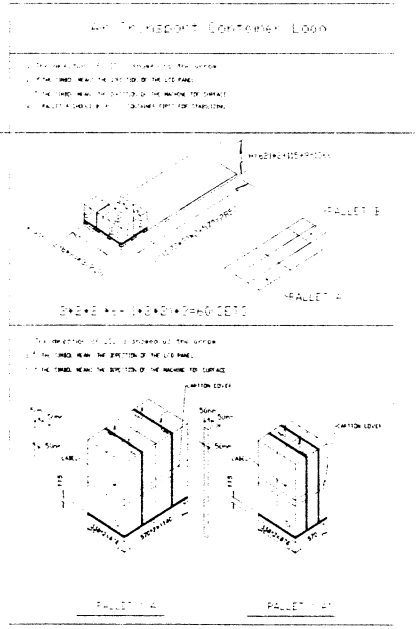
b.) Shipping Container Stowing Method


NOTE
1. ↗ THE SYMBOL MEANS THE DIRECTION OF THE LCD PANEL.
2. ↑ THE SYMBOL MEANS THE DIRECTION OF THE MACHINE TOP SURFACE.
CARTON SIDE
CARTON COVER
BASE

c.) Air Transport Container

Container Type	Quantity of products (sets) (Every container)	Quantity of Products (sets) (Every Pallet)	Quantity of pallet (sets) (Every Container)
Container(3) 3048 * 2082 * 1625	60	Pallet A: 8	Pallet A: 6
		Pallet B: 4	Pallet B: 3
		Pallet C: X	Pallet C: X

d.) Air Transport Container Stowing Method



1.2.4 Electrostatic Discharge Requirements

The subject product must withstand 4 KV for contact discharge and 8 KV for air discharge of Electrostatic Discharge and meet the acceptance criteria as specified in XXXISO 9241-3XXX – should be IEC 801-2 .

1.2.5 Safety Requirements

The display unit complies with the following safety standards and specifications.

- UL compliance....standard for information-processing and business equipment, UL 1950.
- CSA compliance...standard C22.2 No. 950-M89, data processing equipment.
- TUV compliance...EN60950 safety specification-business equipment.
- ISO13406-2 .Ergonomic Requirements of Visual Display.
- Demko...EN60950.
- Nemko...EN60950.
- Semko...EN60950.
- Fimko...EN60950.

1.2.6 EMI Requirements

1. This display unit complies with the following EMC rules and regulations.

   - FCC compliance...FCC Rule, Part 15, Subpart B, Class B.
   - VCCI compliance...VCCI Rule, Class-2.
   - CE Mark Compliance... 89/336/EEC.
     EN55022 Class B
     EN61000-3-2
     EN61000-3-3
     EN55024
     EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5
     EN61000-4-6, EN61000-4-8, EN61000-4-11
   - DNSF compliance...EN55022, Class B.
   - MPR2 compliance & EN50279
   - TCO99(option)

2. The sample for EMI agency approval should be under 3 dB of the limit.
   The production pilot run units should be under 3 dB of the limit.
   The mass production units should be under 1 dB of the limit.

1.2.7 Reliability

The assumed CCFL Life will be longer than 30,000 hours under stable condition at 25 ± 5°C; standard current at 6.0 ± 0.5mA. Definition of life : brightness becomes 50% or less than the minimum luminance value

1.2.8 Mechanical Design for TCO 99

1) Front Frame Reflectance:
   * diffuse reflectance: > 20%
   * Gloss <= 30% gloss unit
2) Labeling of plastics:
   Plastic weight > 25g shall be marked in accordance with ISO11469
3) Variety of Plastic:
   All plastic components that weight > 100g shall be made from the same type of plastic.

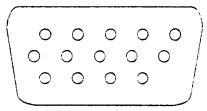
4) Painting of Plastic:
*Any plastic components that weight >100g shall not be painted lacquer or vanished, so that the paint, lacquer or vanish in dry matter exceed 1 weight-% of the plastic component.
* Mould decoration (IMD) is not allowed
* All paints, lacquers, vanishes or colour additives used shall be declared by the type and mount.
5) Metallization of Plastic Housing:
* Metallization is not allowed.
6) Plastic components > 25g shall not contain retardants of organically bound chloride or bromide.

1.2.9 Environment Protection Design
Product is Per ES 715-c49 Environment Design Guide

1.2.10 Acoustical Noise
With the display operating, the issue of sound measured is contained within 40 dB/A in the audible field.

1.3 Input / Output Signal Specification

1.3.1 Input Signal Requirements
1.3.1.1 Signal cable (Directly attached to unit)
1.3.1.1.1 Video Inputs
5pin D-sub connector is on the captive signal cable for IBM VGA, compatible graphic adapters. The pin assignment of this connector is described as below:



* 15pin D-sub female

1 RED VIDEO
2 GREEN VIDEO
3 BLUE VIDEO
4 GROUND
5 GROUND
6 RED GROUND
7 GREEN GROUND
8 BLUE GROUND
9 PC5V
10 SYNC GROUND
11 GROUND
12 SDA
13 H SYNC (H+V)
14 V SYNC
15 SCL

1.3.1.1.2 Cable length
1500mm +/- 20mm

1.3.1.2 Video signals
RGB separate, Analog 0.7Vp-p/75 Ohm

1.3.1.3 Sync signal

- H/V separate , TTL level
- H/V composite ,TTL level

1.3.2 Function

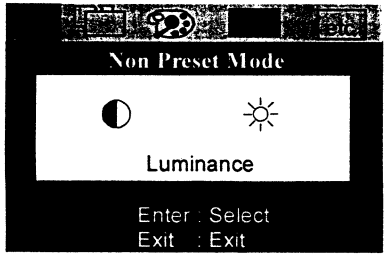
1.3.2.1 Support timing

This Interface board is designed to operate in any of the following video mode.

Incoming display mode(Input timing)					Multi-scan operation
Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Dot Clock Frequency (MHz)	Remark	Actual display resolution
640x350	31.47(P)	70.08(N)	25.17	DOS	full screen 1280x1024
*720x400	31.47(N)	70.08(P)	28.32	DOS	
640x480	31.47(N)	60.00(N)	25.18	DOS	
640x480	35.00(N)	67.00(N)	30.24	Macintosh	
640x480	37.86(N)	72.80(N)	31.5	VESA	
640x480	37.50(N)	75.00(N)	31.5	VESA	
800x600	37.88(P)	60.32(P)	40.00	VESA	
800x600	48.08(P)	72.19(P)	50.00	VESA	
*800x600	46.86(P)	75.00(P)	49.50	VESA	
832X624	49.72(N)	74.55(N)	57.29	Macintosh	
*1024x768	48.36(N)	60.00(N)	65.00	VESA	
1024x768	56.48(N)	70.10(N)	75.00	VESA	
*1024x768	60.02(P)	75.00(P)	78.75	VESA	
1024X768	60.24(N)	74.93(N)	80.00	Macintosh	
1152x864	67.50(P)	75.00(P)	108.00	VESA	
*1152x870	68.68(N)	75.06(N)	100.00	Macintoch	
1152x900	61.80(N)	66.00(N)	94.50	SUN 66	
*1152x900	71.81(N)	76.14(N)	108.00	SUN	
1280x1024	64.00(P)	60.00(P)	108.00	VESA	
1280x1024	75.83(N)	71.53(N)	128.00	IBM1	
*1280x1024	80.00(P)	75.00(P)	135.00	VESA	
*1280x1024	81.18(N)	76.16(N)	135.09	SPARC2	

Notes (1) The timings with "*"symbol will be adjusted in the factory, but there will be still the default settings(rough data) for these timings.

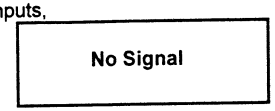
(2) If the incoming display mode is not supported by this I/F board listed above, the up side of OSD window will show "Non Preset Mode" as below to indicate it. Maybe the picture can show up or doesn't which is unpredictable, even the picture can display but probably isn't good or clear.



(3) Some signals from graphics board may not function properly.

(4) "P", "N" stands for "Positive", "Negative" polarity of incoming HSYNC/VSYNC (input timing).

(5) OSD will show "No Signal" message on the screen as below to indicate it while no display mode inputs,



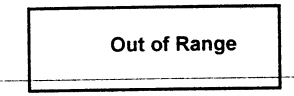
(6) OSD will show "Out of Range" message on the screen as below to indicate it while input display mode meet the following condition,

(a)The resolution is larger than 1280x1024.

(b)The resolution is 1280x1024 but its frequency of vertical sync(Fv) is larger than 77Hz.

(c)The frequency of horizontal sync(Fh) is larger than 90KHz.

(d)The frequency of vertical sync(Fv) is larger than 85Hz.



1.3.3 Number of display colors

16M color numbers

1.3.4 Adjustment function

(A) Hot key function

Contrast, Brightness & Speaker Volume(optional) adjustment.

(B) Main OSD menu

1.) Luminance: Contrast and Brightness adjustment.

2.) Geometry: Horizontal Position, Vertical Position, Phase and Pixel Clock adjustment.

3.) Color Adjustment: Recall preset R,G,B color, Red, Green and Blue adjustment.

4.) Input signal information: Recall preset geometric values.

5.) Miscellaneous: OSD Position adjustment, OSD Off Time, Zoom(on/off) and Language Selection , Volume control.

1.3.5 Display Power Management System (DPMS)

This Interface board will automatically cut down the power of the monitor when not receiving HSYNC or VSYNC signals over about 5 seconds, and the condition are as below,

HSYNC	VSYNC	LCD Module	Backlight
Pulse	pulse	on	on
no pulse	pulse	off	off
Pulse	no pulse	off	off
no pulse	no pulse	off	off

1.3.6 Plug & Play DDC1/2B Support

When the DDC function is supported, it is necessary to input all EDID data(128 bytes) by using SCL and SDA signal, the DDC data table is as below,

Address	Data	Description
00	00	Header
01	FF	
02	FF	
03	FF	
04	FF	
05	FF	
06	FF	
07	00	
08	06	ID Manufacturer Name = API
09	09	
0A	18	ID Product Code = FP751
0B	76	(Vender Assigned code)
0C	*	ID Serial Number
0D	*	32 bits serial no.
0E	*	(use 0 if n/a)
0F	*	
10	*	Week of Manufacture (0-53),use 0 if n/a
11	*	Year of Manufacture (year – 1990)
12	01	EDID version
13	03	Revision
14	6C	Video Input Define
15	22	Max. H. Image Size (cm)
16	1B	Max. V. Image Size (cm)
17	78	(gamma*100) – 100
18	EA	DPMS
19	6E	Red Green Bits Rx1Rx0Rxy1Ry0Gx1Gx0Gy1Gy0
1A	66	Blue White Bits Bx1Bx0By1By0Wx1Wx0Wy1Wy0
1B	A1	Red x bit9-2
1C	54	Red y bit9-2
1D	4C	Green x bit9-2
1E	99	Green y bits9-2
1F	26	Blue x bit9-2
20	19	Blue y bit9-2
21	4F	White x bit9-2
22	54	White y bit9-2
23	BD	Established Timing I
24	EF	Established Timing II
25	80	Established Timing III
26	71	Standard Timing Identification
27	4F	#1 1152X864 75HZ
28	81	#2 1280X1024 60HZ
29	80	
2A	81	#3 1280X1024 71HZ
2B	8C	

Address	Data	Description
2C	81	#4 1280X1024 76HZ
2D	90	
2E	01	#5
2F	01	
30	01	#6
31	01	
32	01	#7
33	01	
34	01	#8
35	01	
36	30	Preferred Timing Description # 1
37	2A	
38	00	1280 X 1024 / 60HZ
39	98	
3A	51	
3B	00	
3C	2A	
3D	40	
3E	30	
3F	70	
40	13	
41	00	
42	52	
43	0E	
44	11	
45	00	
46	00	
47	1E	
48	D5	Detailed Timing Description # 2
49	09	
4A	80	640X350, 70HZ
4B	A0	Pixel clock : 25.175MHz
4C	20	
4D	5E	
4E	63	
4F	10	
50	10	
51	60	
52	52	
53	08	
54	52	
55	0E	
56	11	
57	08	
58	06	
59	1C	

Address	Data	Description
5A	00	Monitor Descriptor
5B	00	
5C	00	Range Limit
5D	FD	V. Freq range: 56~75 Hz
5E	00	H. Freq range: 31~81KHz
5F	38	Max pixel clock: 135MHz
60	4B	Monitor Descriptor
61	1F	
62	51	
63	0D	
64	0A	
65	20	
66	20	
67	20	
68	20	
69	20	
6A	20	
6B	20	
6C	00	Monitor Descriptor
6D	00	
6E	00	Monitor Name " Acer FP751"
6F	FC	Monitor Descriptor
70	00	
71	41	
72	63	
73	65	
74	72	
75	20	
76	46	
77	50	
78	37	
79	35	
7A	31	
7B	0A	
7C	20	
7D	20	
7E	00	Extension Flag
7F	*	Check sum

1.3.7 Power Supply Requirements

1.3.7.1 Input Power Requirements

(1) Input Voltage Range
The unit shall meet all the operating requirements with an input voltage range of 90~264 Vac .

(2) Input Current

Maximum Input Current	Measuring Range
(MAX) 2 Arms	90Vac ~ 264Vac

(3) Frequency Range
The unit shall operate within a frequency range of 47Hz to 63Hz.

(4) Inrush Current
Power supply inrush current shall be less than the ratings of its critical components (including Power switch, fuse, rectifiers and surge limiting device) for all conditions of line voltage.

(5) Regulator Efficiency
70% minimum (measuring at 115Vac and full load)

(6) Power line Transient Immunity
The power supply shall function properly after being subjected to a 0.3us/1.2us, 2000 volts high peak pulse, or 5ns/10ns,1500 volts fast peak pulse applied either differentially or single endedly to line and neutral at any phase of the power line voltage and shall not cause an unsafe or unrecoverable errors.

(7) Maximum power consumption <45 Watts (without USB hub & audio).
Maximum power consumption < 53 Watts (with USB hub & without audio)
Maximum power consumption < 62 Watts (with USB hub & audio)
Power saving mode < 3 Watts

(8) Safety concern: 1. Earth leakage current < 1mA (< 0.5mA at 100VAC)
2. Electric strength > AC 1200V (1min)
3. Insulation resistance > 10Mohm (500V)

1.3.7.2 Output Power Requirements

The power circuit shall supply DC power outputs as followings:

Output	Nominal	Regulation	Load Current Range
1	12V	±3%	0 ~ 3.0A
2	5V-FIX	±3%	0 ~ 500mA
3	5V	±3%	0 ~ 500mA
4	3.3 V	±3%	0 ~ 500mA

1.3.7.3 AC Power Inlet

The display unit shall be supplied with an AC power NICOON NC-174(or equivalent), to be located at the rear of the LCD Monitor.

1.3.7.4 Input Power Cord

Each AC adapter unit shall be supplied with a input power cord, with length of 1800mm king cord KC-003 or equivalent.

1.3.7.5 Power Management

Mode	H/Vsync	Power consumption	LED Color (Status)	Recovery Time
Normal	Both exist	< 45W (without USB hub)	Green (Normal)	--
off	None or only one exist	< 3W (without USB hub)	Amber	3 sec

1.3.8 Panel optical Characteristics

ADT L170E1 optical characteristics are determined after the unit has been 'ON' and stable for approximately 30 minutes in a dark environment at 25℃. The values specified are at an approximate distance 50cm from the LCD surface at a viewing angle of Φ and θ equal to 0° and aperture 1 degree. The test equipment is BM-7. The input signal voltage and timing specification are V_{DD} of 12V, 60Hz of Fv and 54MHz of pixel rate respectively.

Item	Unit	Conditions	Min.	Typ.	Max.
Viewing Angle	[degree]	Horizontal (Right)	-	60 60	-
	[degree]	CR = 10 (Left)	-		-
	[degree]	Vertical (Up)	-	45	-
	[degree]	CR = 10 (Down)	-	70	-
	[degree]	Horizontal (Right)	-	80 80	-
	[degree]	CR = 5 (Left)	-		-
	[degree]	Vertical (Up)	-	55	-
	[degree]	CR = 5 (Down)	-	80	-
Contrast ratio		Normal Direction	250	400	-
Response Time	[msec]	Raising Time	-	30	-
	[msec]	Falling Time	-	15	-
	[msec]	Raising + Falling	-	45	-
Color / Chromaticity Coordinates (CIE)		Red x	0.60	0.63	0.66
		Red y	0.30	0.33	0.36
		Green x	0.27	0.30	0.33
		Green y	0.57	0.60	0.63
		Blue x	0.12	0.15	0.18
		Blue y	0.07	0.10	0.13
Color Coordinates (CIE) White		White x	0.28	0.31	0.34
		White y	0.30	0.33	0.36
Luminance Uniformity (Note 1)	[%]		75	80	-

White Luminance at CCFL 6.0mA(center point)	[cd/m^2]		200	250	-

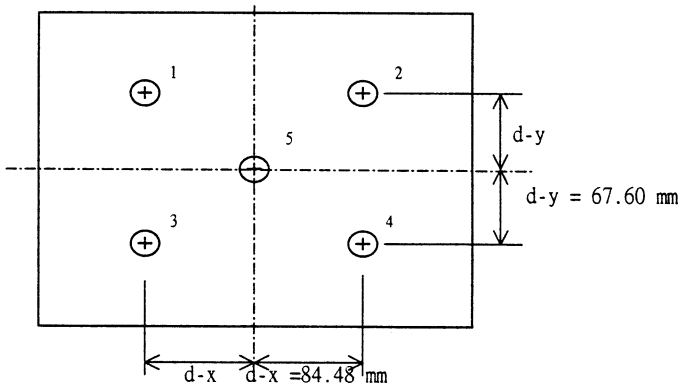
Note 1 Measure points & Diagram

$$d\text{-}x = \frac{\text{Display Length distance}}{4} \text{ [mm]}$$

$$d\text{-}y = \frac{\text{Display Width distance}}{4} \text{ [mm]}$$

$$\text{Uniformity} = \frac{\text{Minimum Luminance in 5 Points (1-5)}}{\text{Maximum Luminance in 5 Points (1-5)}}$$

LCD Display area = 337.9 x 270.4



1.3.9 Panel Electrical Specifications

Absolute Maximum Ratings

Absolute maximum ratings of the module is as following:

Item	Symbol	Min	Max	Unit	Conditions
Logic/LCD Drive Voltage	VIN	-0.3	+13.2	[Volt]	
Select LVDS data order	SELLVDS	-0.3	+3.3	[Volt]	
CCFL Inrush current	ICFLL	-	38	[mA]	Note 1
CCFL Current	ICFL	-	7.6	[mA] rms	
Operating Temperature	TOP	0	+50	[°C]	Note 2
Operating Humidity	HOP	8	95	[%RH]	Note 2
Storage Temperature	TST	-20	+60	[°C]	Note 2
Storage Humidity	HST	8	95	[%RH]	Note 2

Note 1 : Maximum Wet-Bulb should be 39℃ and No condensation.

Note 2 : Duration=50 msec.

1.4 Functional specification

All the tests to verify specifications in this section must be performed under the following standard conditions unless otherwise noted. The standard conditions are:

-Temperature : 0 to 40 degree Celsius
-AC line input voltage : 100 Vac to 240 Vac, 50Hz or 60Hz
-Warm-up time : 30 minutes minimum

1.4.1 Display Quality

1.4.1.1 Display Data Area (with full white pattern)

(1) Horizontal: 404 +/- 0.5 mm
(2) Vertical: 322.5 +/- 0.5 mm

1.4.1.2 Video Performance

(1) Resolution : 1280x1024 pixels Maximum
(2) Contrast ratio : 250(Min.)
(3) Response time : 45 mS(Max.)
(4)Viewing angle : U/D:40/70 , R/L:60/60(Typ.)
(5)CIE Coordinate: White (0.31, 0.33)
(6) Display color: 16.7 M

1.4.1.3 Light Output

Brightness rating : 200cd/㎡ (min.)at cont.=60,brit.=99,color temperature=6500K

1.4.1.4 Brightness Adjustment Range

At contrast ratio control set at maximum level, adjusting Brightness control from minimum to maximum position, the light output of WHITE pattern shall be increased more than 40cd/㎡.

1.4.2 Audio Quality(Optional)

1.4.2.1 Preamp + Poweramp

(1) Output Power : 1.0 W rms/CH @ 1KHz
(2) THD (@ 1W) : <1%
(3) S/N ratio : 50db

1.4.2.2 Speaker Driver

(1) Nominal Impedance: 8 Ohm
(2) Maximum Input Power: 2 W/CH
(3) Frequency Response: 12KHz
(4) Size: 30*70 mm
(5) Magnetic Shield: Required

1.4.2.3 Audio Controls

(1)Volume 0- 5 V

1.4.3 USB pure hub(Optional)

(1) Use ISP1122(Philips stand-alone USB hub device) solution.
(2)Compliance with "USB Specification Rev.1.1".
(3)Support 1 upstream port and 2 downstream ports.
(4)USB power: DC 5V (+/- 0.5V), 1A(+/- 0.1A).

1.5 Physical Specifications

1.5.1 Physical Dimension & Appearance

1.5.1.1 Overall Dimensions

422mm (W) X 451mm (H) X 207.97mm (D)

1.5.1.2 Outer Appearance

see Fig.1

1.5.2 Construction and Materials on outer surface

(1) Materials: Plastic
(2) Color: WHITE
To be defined for OEM

1.5.3 Base

(1) Tilt: 0/+25 °
(2) Swivel: ±150 °

1.5.4 Marking & Labels

1.5.4.1 Reference Label (Rear panel)

(1) Reference numbers
(2) Manufacture data
(3) Agency Approvals
(4) Power Ratings

1.5.4.2 Controls & Connectors

(1) AC power cord input: abbreviated labels
(2) User's Controls: standard print

1.5.5 Packaging

1.5.5.1 Carton Dimension

510mm (W) X255mm (D) X 530mm (H) (LCD monitor)

1.5.5.2 Shipping Weight

10kg (LCD monitor)

1.5.5.3 Shipping Container

420 sets per 40 feet container without pallet.

1.6 Maintainability Specifications

1.6.1 General & Requirements

1.6.1.1 Installation

From outside of unit with standard tools and documentation provided to user.

1.6.1.2 Periodic Maintenance

No periodic maintenance is required.

1.6.1.3 Repair & Calibration

Require spare modules or components as specified as followings:
(1) Interface board ASSY
(2) AC-DC converter board ASSY
(3) Control board ASSY
(4) USB board ASSY(optional)

1.6.2 Mean Time to Repair

1.6.2.1 Module Level

Less than 10 minutes

1.6.2.2 Component Level

Less than 15 minutes

1.6.3 Accessibility

1.6.3.1 General

All panels, covers, and major assemblies are removable without disruption of permanent mounting or fasteners.

1.6.3.2 Outside Cabinet, access to the following elements

-Operating Controls
-AC Inlet
-Audio in
-DC Jack for USB hub(optional)

1.6.3.3 Cover Removal, Access

All sub assemblies and internally adjustable components may be accessed by removing the base and the rear cover .

1.6.4 Equipment & Tools Required

1.6.4.1 Standard Test Equipment

(1) Voltmeter
(2) Dual trace oscilloscope
(3) Hand tools as required
(4) Computer with IBM VGA , or compatible graphic adapter

1.6.4.2 Documentation

A service manual will be available which covers all service requirements. A users manual written in Japanese German, Italian, Spanish, France and English will be available to ship with the product.

1.6.5 Electrical Emission and Energy Saving summary for TCO99

1.6.5.1 Electrical Field(AC)

*Band I< 10V/m (132cd/m^2,"+" pattern)
*Band II< 1V/m (132cd/m^2,"+" pattern)

Note: Shielded power cord is not acceptable

1.6.5.2 Magnetic Field(AC)

*Band I< 200nt (132cd/m^2,"+" pattern)
*Band II< 32nt (132cd/m^2,"+" pattern)

Note: Shielded power cord is not acceptable

1.6.5.3 Energy Saving

*1st stage:<15W(recover time:3 sec)
2nd stage:<5W
*single stage:<5W(recover time: 3sec)

FP751 LCD Monitor Service Guide
Chapter 1 Engineering Specification

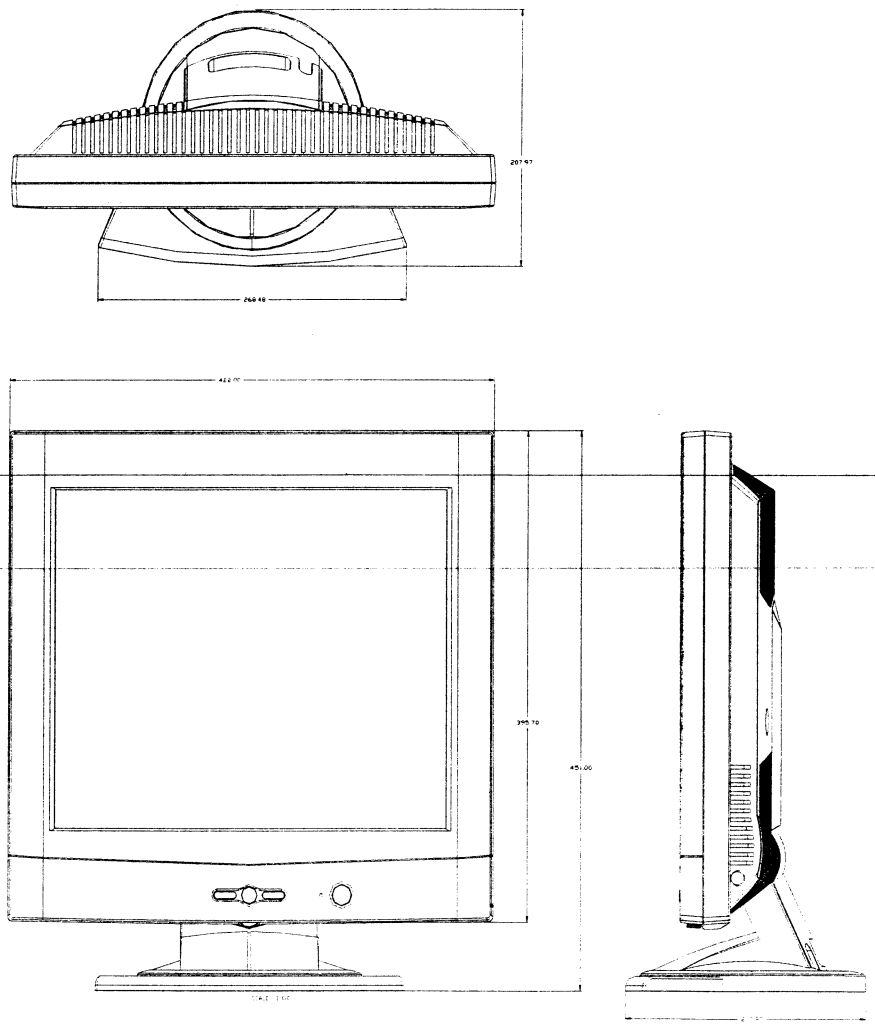


Fig. 1 Physical Dimension Top View, Front View and Side view

Table of Contents

2.1 Introduction 2
2.2 Block diagram 2
2.3 Circuit operation theory 3
2.3.1 Interface board diagram 3
2.3.1.1 Circuit operation theory 3
2.3.1.2 IC introduction 3
2.3.2 AC-DC board diagram 4
2.3.2.1 EMI Filter 4
2.3.2.2 Rectifier and filter 5
2.3.2.3 Switching element and Isolation power transformer 5
2.3.2.4 Rectifier and filter 6
2.3.2.5 Control circuit 6
2.3.2.6 Feedback circuit 7
2.3.3 Audio Speaker(optional) 7
2.3.3.1 Power IC 7
2.3.3.2 DC Power Input 7
2.3.3.3 Audio Input 7
2.3.3.4 Speaker 7
2.3.3.5 DC Volumn Control 7

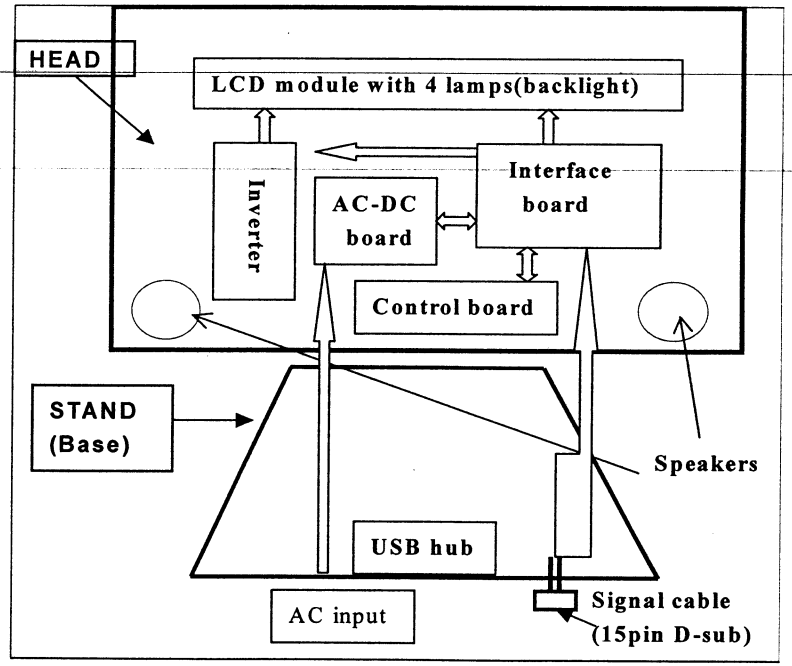
FP751 LCD Monitor Service Guide
Chapter 2 Circuit Operation Theory

2.1 Introduction

The FP751 is an 17" SXGA(1280x1024) 24 bits color TFT LCD monitor with multi-media function and an optional USB hub. It's an analog interface LCD monitor with an undetachable 15 pins D-sub signal cable and it's compliant with VESA specification to offer a smart power management and power saving function. It also offers OSD menu for users to control the adjustable items and get some information about this monitor, and the best function is to offer users an easy method to set all adjustable items well just by pressing one key, we called it "i-key"(intelligent key) which can auto adjusting all controlled items.

2.2 Block diagram

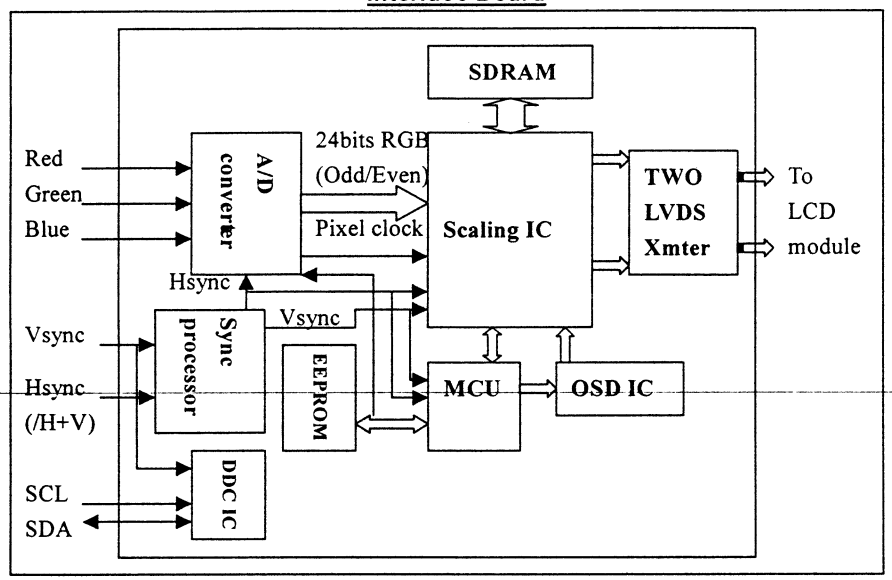
The FP751 consists of a head and a stand (base). The head consists of a LCD module with 4 lamps, an Inverter, an Interface bard, a AC-DC board, a Control board and a microphone. The stand consists of an AC-DC board, an Audio board, two speakers and an optional USB hub. The block diagram is shown as below,



2.3 Circuit operation theory

2.3.1 Interface board diagram

Interface Board



2.3.1.1 Circuit operation theory

A basic operation theory for this interface board is to convert analog signals of Red, Green and Blue to digital signals of Red, Green and Blue, and by the internal PLL circuit of A/D converter to generate the pixel clock to output to the scaling IC, then the scaling IC use the SDRAM to be the frame buffer to process the different input signals which are operating in the specification of the A/D converter and the scaling IC, finally the scaling IC output the digital RGB data, the fixed frequency of Hsync, Vsync and pixel clock to LCD panel driver IC by LVDS transmitter.

2.3.1.2 IC introduction

1.) DDC(Display Data Channel) IC: We use ATMEL 24C21 to support DDC1/2B function, it will store the information related to LCD monitor and PC can read them by "Vsync and SDA" serial communication for DDC1 or I^2C communication for DDC2B.
2.) Sync Processor: Because the A/D converter and the scaling IC of this board can't separate composite Sync into Hsync and Vsync by themselves, we use 14053B to output the pure Hsync and Vsync respectively to them to solve this application problem.
3.) A/D converter: We use AD9884 of ADI which can support maximum 140MHz pixel rate to convert analog signals of RGB to 24bits digital RGB signals and generate a pixel clock signal by Hsync and its internal PLL circuit, then transmit these digital signals to Scaling IC.

4.) Scaling IC: We use MX88L282 of Macronix and by its frame buffer function to process the digital RGB signals to maximum 75Hz refresh rate at 1280 by 1024 resolution(about 135MHz pixel rate), it also support a ratio expansion function to display a full screen when the resolution of input signals are less than 1280 by 1024.
5.) SDRAM: We use 3 pieces of 2M bytes SDRAM to be the frame buffer of the scaling IC to process maximum 1280 by 1024 resolution of 24 bits RGB data.
6.) MCU: We use Myson MTV112V to controls all the functions of this interface board, just like the mode detecting, OSD display setting, the adjustable items, adjusted data storage, DPMS control, the external RS232 communication and the scaling IC
7.) EEPROM: We use 24C04 to store all the adjustable data , and we divide it into two parts for the storage of factory settings and user settings.
8.) OSD IC: We use LSC3852 of Motorolla to do "On Screen Display" function.
9.) LVDS transmitter IC: We use two pieces of THC63LVDM83A of THine to transmit all the digital data to the LCD panel driver IC because this driver IC has two pieces of built-in THC63LVDM83A (LVDS receiver IC).

2.3.2 AC-DC board diagram

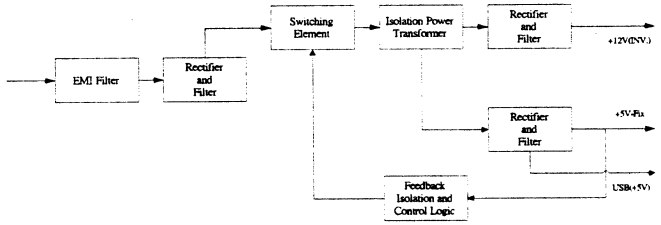


Fig. 1

2.3.2.1 EMI Filter

This circuit (fig. 2) is designed to inhibit electric and magnetic interference for Meet FCC, VDE, VCCI standard requirements

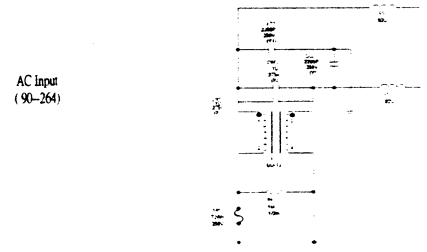


Fig. 2

2.3.2.2 Rectifier and filter

AC Voltage (90-264V) is rectified and filtered by BD601, C605 (See Fig 3) and the DC Output voltage is 1.4*(AC input). (See Fig.3)

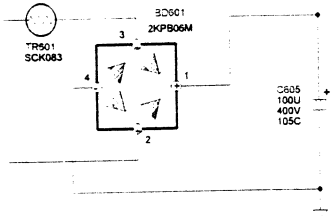


Fig. 3

2.3.2.3 Switching element and Isolation power transformer

When the Q601 turns on, energy is stored in the transformer. During Q601 OFF period, the stored energy is delivered to the secondary of transformer. R604, C606 and D601 is a snubber circuit. R605 is current sense resistor to control output power. (See Fig.4)

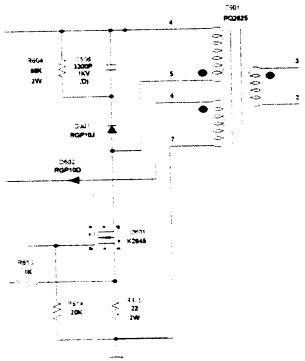


Fig. 4

2.3.2.4 Rectifier and filter

D701 and C701 are to produce DC output. L701 and C702 are to suppress high Frequency switching spikes. R702 is a dummy load. (See Fig.5)

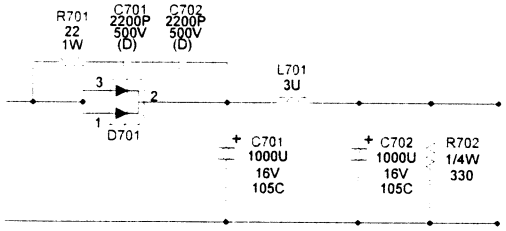


Fig. 5

2.3.2.5 Control circuit

The current mode control IC UC3843A is used to control PWM. When the VCC terminal of it gets 8.4V, IC601 turns on. +5V will be set up at Pin8 through soft start circuit includes R617, C611, D606 and D605. R616 and C610 generate a fixed frequency sawtooth wave at Pin4.

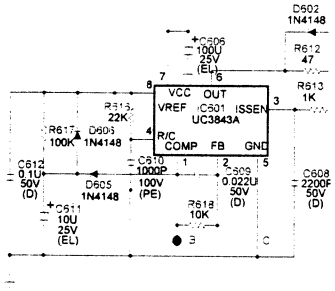


Fig. 6

2.3.2.6 Feedback circuit

TLP721F is a optocoupler and TL431 is a shunt regulation. They are used to detect the output voltage change and primany and secondary isolation. When output voltage changes, the feedback voltage will be compared and duty cycle will be decided to control the correct output voltage. (See Fig.7)

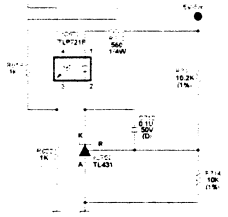
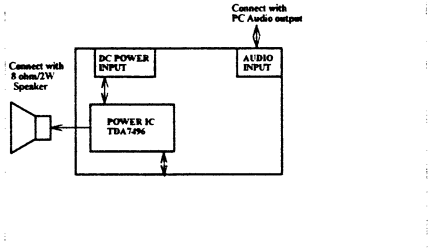


Fig. 7

2.3.3 Audio Speaker(optional)



The Audio Speaker is consinst of an Audio board. The Audio Speaker have DC Volumn control, use 28mmX40mm Speaker (2W/per chennal), power supply from AC-DC board and Audio input from PC Audio output (Line Out) .

2.3.3.1 Power IC

Use ST POWER IC TDA7496.The IC are stereo AB Class output amplifiers with DC Volume control. The devices are designed for use in TV and monitor, but are also suitable for battery-Fed portable recorders and radios. Use +12V from AC-DC Board and connect speaker to offer 1W per chennal.

2.3.3.2 DC Power Input

To supply +12V to be VCC source Voltage for TDA7496 and built-in AC-DC board.

2.3.3.3 Audio Input

connect with PC Audio output in 3.5mm to 3.5mm signal line.

2.3.3.4 Speaker

Use 8 ohm and 28mmX40mm speaker (2W/per chennal)

2.3.3.5 DC Volumn Control

The voltage range is 1 – 5 V (From MC)

Alignment procedure (for function adjustment)

1. Enter factory area (press "enter" & "exit" & "power on")
2. select timing timing which has star sign(*) have to adjust. (see figure 1)
3. clear user area.
4. adjust the contrast and the brightness bar to "50".
5. Press I-key to adjust the image.
6. check the image if phase is not perfect adjust it to the best step.
7. Save factory parameter then turn off power
8. Clear user area
9. Turn on power enter user area.

Figure 1.

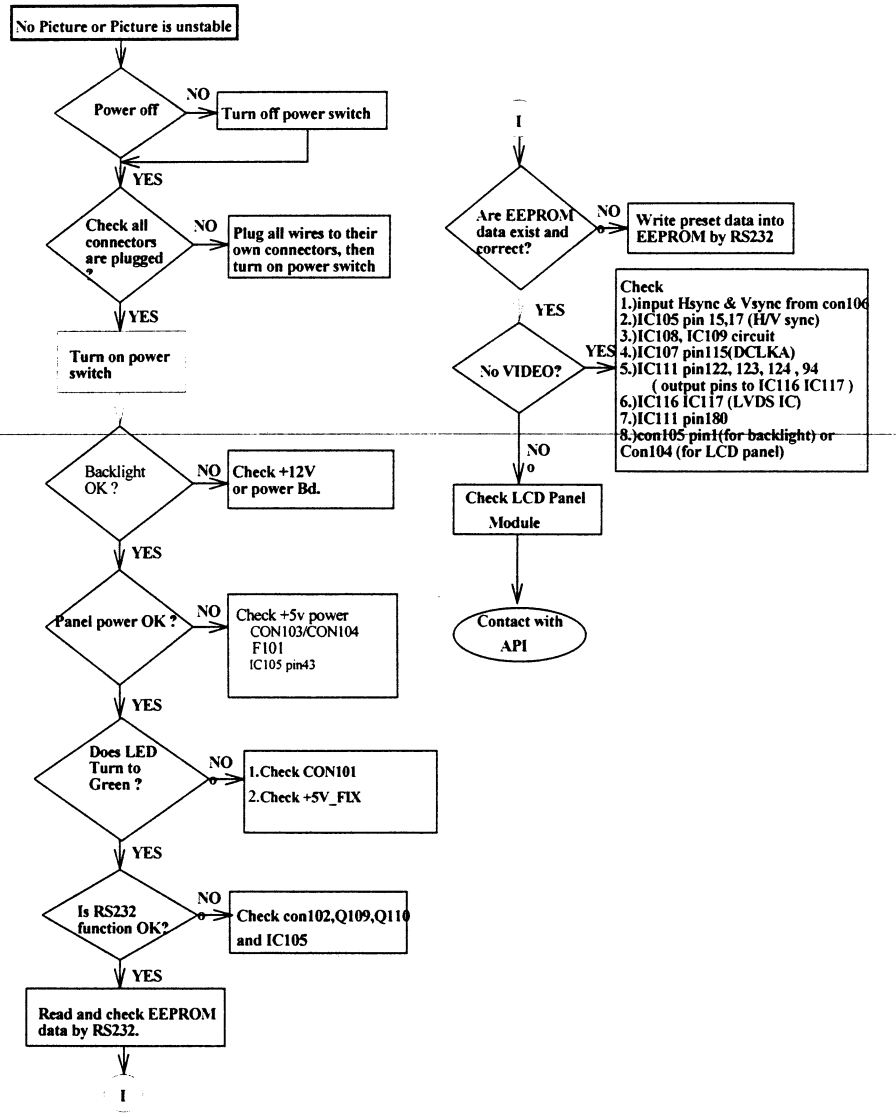
Incoming display mode(Input timing)					Multi-scan operation
Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Dot Clock Frequency (MHz)	Remark	Actual display resolution
*640x350	31.47(P)	70.08(N)	25.17	DOS	full screen 1280x1024
*720x400	31.47(N)	70.08(P)	28.32	DOS	
*640x480	31.47(N)	60.00(N)	25.18	DOS	
*640x480	35.00(N)	67.00(N)	30.24	Macintosh	
*640x480	37.86(N)	72.80(N)	31.5	VESA	
*640x480	37.50(N)	75.00(N)	31.5	VESA	
*800x600	37.88(P)	60.32(P)	40.00	VESA	
*800x600	48.08(P)	72.19(P)	50.00	VESA	
*800x600	46.86(P)	75.00(P)	49.50	VESA	
832X624	49.72(N)	74.55(N)	57.29	Macintosh	
*1024x768	48.36(N)	60.00(N)	65.00	VESA	
1024x768	56.48(N)	70.10(N)	75.00	VESA	
*1024x768	60.02(P)	75.00(P)	78.75	VESA	
1024X768	60.24(N)	74.93(N)	80.00	Macintosh	
1152x864	67.50(P)	75.00(P)	108.00	VESA	
1152x870	68.68(N)	75.06(N)	100.00	Macintoch	
1152x900	61.80(P)	66.00(P)	92.94	SUN 66	
1152x900	71.81(N)	76.14(N)	108.00	SUN	
*1280x1024	64.00(P)	60.00(P)	108.00	VESA	
*1280x1024	75.83(N)	71.53(N)	128.00	IBM1	
*1280x1024	80.00(P)	75.00(P)	135.00	VESA	
1280x1024	81.18(N)	76.16(N)	135.09	SPARC2	

Table of Contents

4.1 No Picture or Picture is unstable 2
4.2 BUTTON function 3
4.2.1 Control Board 3
4.3 DDC function 4
4.3.1 DDC 4
4.4 OSD function 5
4.5 Power Board with audio 6

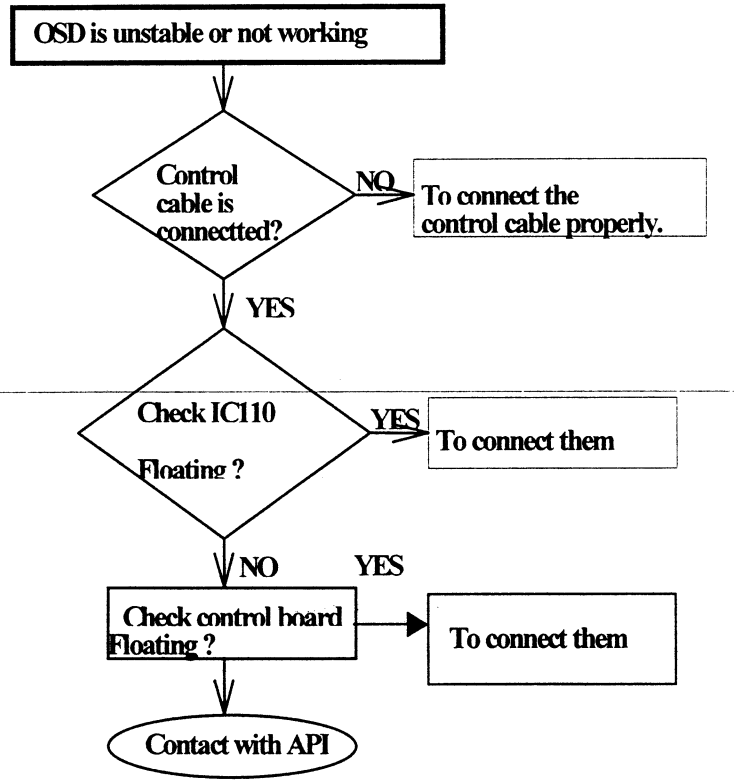
FP751 LCD Monitor Service Guide
Chapter 4 Trouble Shooting

4.1 No Picture or Picture is unstable



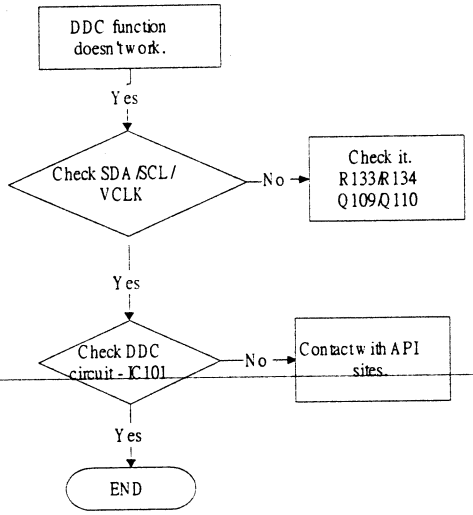
4.2 BUTTON function

4.2.1 Control Board

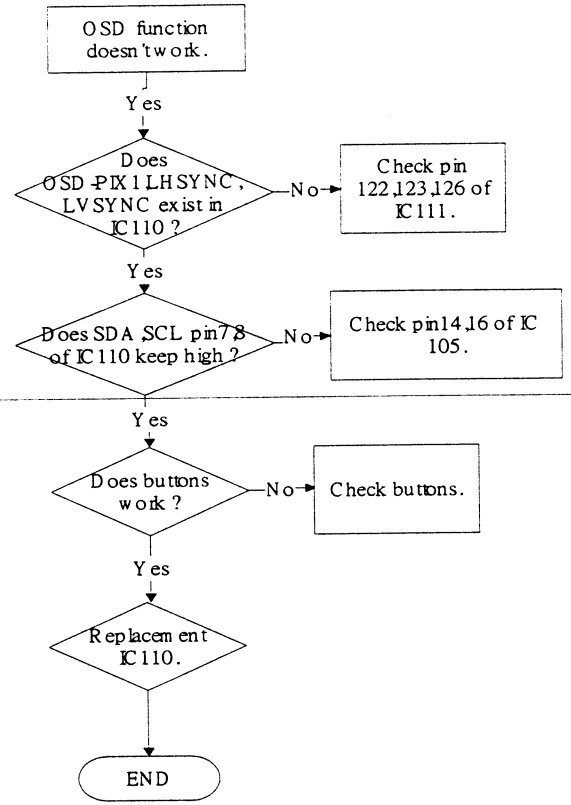


4.3 DDC function

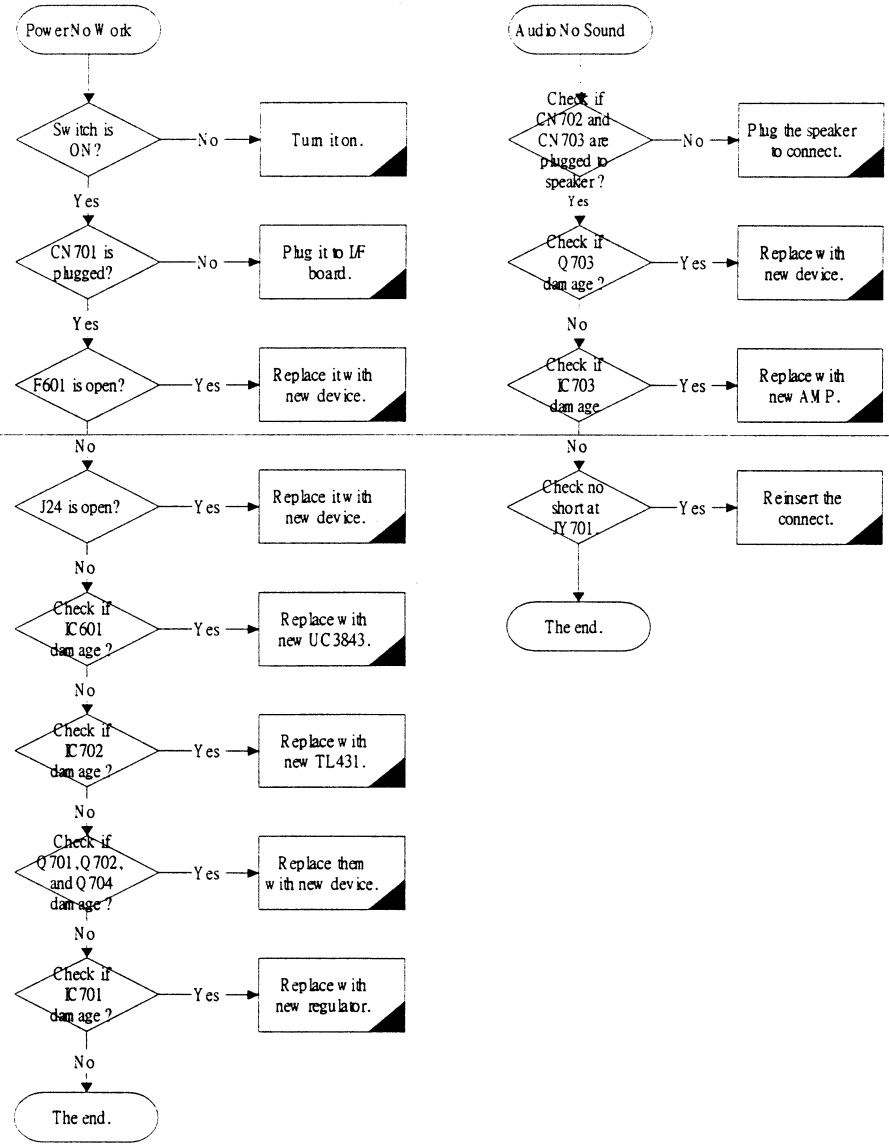
4.3.1 DDC



4.4 OSD function



4.5 Power Board with audio



P/N: 99.L2272.001

ITEM	PART NO.	DESCRIPTION	LOCATION
1	55.L0704.001	SPS BD FP750(MI)	
2	04.07496.010	IC AMP TDA7496 SIP 6P	IC703
3	05.00123.010	IC OPTO PC123F1 DIP 4P	IC602
4	06.00100.052	SCR MCR100-6 400V 0.8A TO-92T	IC603
5	74.00431.A3B	IC V.R ZR431 SOT-23	IC702
6	74.03843.07K	IC PWM CTRL UC3843ADM SOIC 8P	IC601
7	04.3RF23.030	IC V.R PQ3RF23 3.3V TO-220	IC701
8	55.L1405.001	USB BD FP558(MI)	
9	23.30006.731	XTAL 6MHZ 30PF 30PPM 49US	X901
10	71.01122.00E	IC USB HUB 1SP1122BD LQFP32P	IC903
11	74.02526.0KK	IC USB PWR SW MIC2526-2 SOIC 8P	IC901
12	55.L2203.001	INTERFACE BD FP751-MI	
13	71.03852.00B	IC OSD LSC3852DW SO-W 24P	IC110
14	71.06383.001	IC LVDS 24B THC63LVDM83A SSOP	IC116, IC117
15	71.09884.009	IC GRAPH DIGIT AD9884 MQFP128P	IC107
16	71.88282.A0E	IC FPD CTRL MX88L282 256P 3.3V	IC111
17	72.02421.001	IC EPROM 24LC21AT-SN SO-N 8P	IC101
18	72.24C04.A01	IC EEPROM 24C04 512*8 SO-N 8P	IC102
19	72.45161.A09	IC DRAM 4516161AG5-A10-7 JFT SOP	IC113, IC114,IC115
20	73.07414.061	IC CMOS 74LVC14A SO-N 14P	IC108
21	74.01117.03M	IC V.R LD1117-3.3 0.8A TO-252	IC106, IC121, IC122
22	74.14053.091	IC A.S. MC14053BD SO-N 16P	IC109
23	82.30006.001	XTAL 12MHZ 32P 30PPM	Y101
24	82.31431.001	XTAL 14.318MHZ 32P 30PPM 49US	Y102
25	84.04431.037	FET MOS SI4431DY-T1 PC SO-8	IC118
26	71.00112.M0C	IC MICON MTV12M PLCC44P/FP558	IC105
27	55.L2204.001	CTRL BD FP751 MI	
28	27.81818.031	CORD SVT #18*3C 10A 125V US	
29	50.L1603.001	SIGNAL/C 15/16P 2080MM 002	
30	54.05023.211	INVERTER BD FP730 AMBIT	

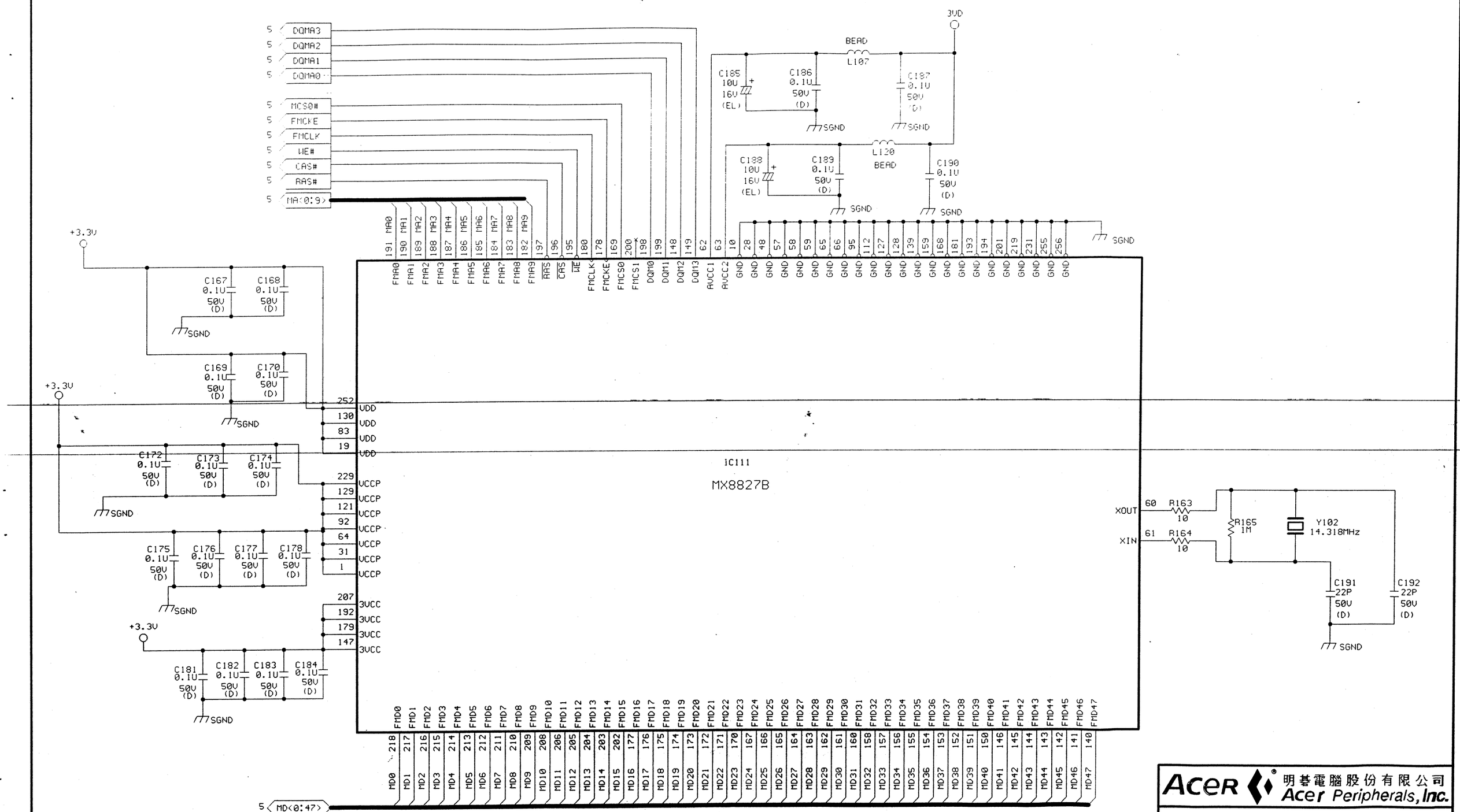
FP751 LCD Monitor Service Guide

Spare Parts List

P/N: 99.L2272.001

ITEM	PART NO.	DESCRIPTION	LOCATION
31	56.91L16.001	LCDM 17" L170E1/ADT	
32	39.L0701.001	CVR REAR PC-ABS 002 FP750 T99	
33	60.L0704.001	ASSY BASE 002 FP750	
34	60.L0705.011	ASSY BZL 002 FP751SPK/ACER T99	
35	60.L0706.001	ASSY SHD CVR FP750/ACER	
36	60.L1601.001	ASSY BKT-R FP730	
37	65.L0701.001	ASSY SPAEKER+WIRE 370MM 8Ω 2W	
38	65.L0702.001	ASSY SPEAKER+WIRE 200MM 8Ω 2W	
39	20.20118.A15	CONN D FML 15-3R/ML 15P-3 MANU	
40	42.L0811.001	PE-HD BAG 600*650*0.05T 24LNG	
41	44.70A01.081	CTN AB 570*338*621 FP751/ACER	
42	44.70A02.001	CTN-CVR AB 1148*684 FP850	
43	46.71602.032	CARD WARRANTY ACER LCD	
44	47.L0701.001	CSN L EPS NATURE FP750	
45	47.L0702.001	CSN R EPS NATURE FP750	
46	49.L2201.001	MANUAL USER ACER FP751 T99 8L	
47	50.74405.501	CABLE AUD PC99PT284C/PT577CBK	
48	44.00004.001	ENVELOP ACER 17" LCD CD-ROM	
49	53.00039.001	MANUAL CO-ROM ACER 17" LCD	

* This price list may be subject to change with prior notice by CSD of ACM.



NOTES:
1. Resistor values are in ohm, K=1,000 ohm, M=1,000,000 ohm
2. All resistors are 1/8 watt, 5% except where otherwise indicated
3. ⏚ ⏚ ⏚ Represents PCB common ground.

ACER 明碁電腦股份有限公司 Acer Peripherals, Inc.

ACER FP751 SCHEMATIC				
SIZE A4	L0703A00.SCH	FAB A	Doc.No. 304-C01	REV. 0
DATE : 7/5/2000		Sheet 1 OF 8		
Project Code. 99.L2272.001				
Prepared By	Reviewed By	Approved By		
CHRIS PENG 7/5/00	JAMMY LIN 7.5.00	T.S.WU 7/5/00		

IC116 & IC117	R217	R182
SN75LVDS83	0	0
DS90C383	OPEN	OPEN
THC63LVDM83A	OPEN	OPEN

RA0 RA1 RA2 RA3 — RP118 BEAD — RA01 RA02 RA03

RA4 RA5 RA6 RA7 — RP119 BEAD — RA04 RA05 RA06 RA07

GA0 GA1 GA2 GA3 — RP120 BEAD — GA00 GA01 GA02 GA03

GA4 GA5 GA6 GA7 — RP121 BEAD — GA04 GA05 GA06 GA07

BA0 BA1 BA2 BA3 — RP122 BEAD — BA00 BA01 BA02 BA03

BA4 BA5 BA6 BA7 — RP123 BEAD — BA04 BA05 BA06 BA07

RB0 RB1 RB2 RB3 — RP124 BEAD — RBE0 RBE1 RBE2 RBE3

RB4 RB5 RB6 RB7 — RP125 BEAD — RBE4 RBE5 RBE6 RBE7

GB0 GB1 GB2 GB3 — RP126 BEAD — GBE0 GBE1 GBE2 GBE3

GB4 GB5 GB6 GB7 — RP127 BEAD — GBE4 GBE5 GBE6 GBE7

BB0 BB1 BB2 BB3 — RP128 BEAD — BBE0 BBE1 BBE2 BBE3

BB4 BB5 BB6 BB7 — RP129 BEAD — BBE4 BBE5 BBE6 BBE7

LCMAA LCMG LVDSMC — RP130 5K — LCM_O DE LVDSMCB

EN3V — C220 0.1u 50V (D) — LVDS1_GND

IC116 THC63LVDM83A

1	VCC	TXIN4	56
2	TXIN5	TXIN3	55
3	TXIN6	TXIN2	54
4	TXIN7	GND	53
5	GND	TXIN1	52
6	TXIN8	TXIN0	51
7	TXIN9	TXIN27	50
8	TXIN10	LVDS GND	49
9	VCC	TXOUT0-	48
10	TXIN11	TXOUT0+	47
11	TXIN12	TXOUT1-	46
12	TXIN13	TXOUT1+	45
13	GND	LVDS VCC	44
14	TXIN14	LVDS GND	43
15	TXIN15	TXOUT2-	42
16	TXIN16	TXOUT2+	41
17	VCC	TXCLK OUT-	40
18	TXIN17	TXCLK OUT+	39
19	TXIN18	TXOUT3-	38
20	TXIN19	TXOUT3+	37
21	GND	LVDS GND	36
22	TXIN20	PLL GND	35
23	TXIN21	PLL VCC	34
24	TXIN22	PLL GND	33
25	TXIN23	PWR DWN	32
26	VCC	TXCLK IN	31
27	TXIN24	TXIN26	30
28	TXIN25	GND	29

RA07 RA05 GA00 — RA04 RA03 RA02

GA01 GA02 GA06 — RA01 RA00 RA06

GA07 GA03 GA04 — TXOOUT0- TXOOUT0+ TXOOUT1- TXOOUT1+

GA05 BA00 BA06 — TXOOUT2- TXOOUT2+ TXOCLK- TXOCLK+ TXOOUT3- TXOOUT3+

BA07 BA01 BA02 — LCK_O DE

BA03 BA04 BA05 — LHSYNCB LVSYNCB

EN3V — C221 0.1U 50V (D) — LVDS1_GND

EN3V — C222 0.1U 50V (D) — LVDS1_GND

L101 BEAD — SGND — LVDS1_GND

R217 OPEN

LVDS1_GND

LVDS1_GND

LVDS1_GND

LVDS1_GND

+5V — R223 OPEN — C234 OPEN 50V (D) — R186 100K — IC118 SI4431DY — F101 2A — 12V-LCD1

+C235 47U 35V (EL) — C236 0.1U 50V (D) — SGND

+5V — IC119 OPEN

LCD_ON — D108 STPS1L30A — R185 20K — Q104 2N3904 — C171 68U 25V (EL) — R155 10K — SGND

EN3V — L113 BEAD (0603) — LVCC2 — C228 0.1U 50V (D) — +C219 22U 16V (EL) — LVDS1_GND

+5V — IC121 LD33 (VI VO GND) — BEAD L112 — EN3V

C223 0.1U 50V (D) — +C128 22U 16V (EL) — C247 0.1U 50V (D)

EN3V — L115 BEAD (0603) — PVCC2 — C230 0.1U 50V (D) — +C229 22U 16V (EL) — LVDS1_GND

TXC- TXC+ — TX2+ TX2-

CON103 20P

TXOOUT0-	2	1	TXEOUT3+
TXOOUT0+	4	3	TXEOUT3-
TXOOUT1-	6	5	TXECLK+
TXOOUT1+	8	7	TXECLK-
TXOOUT2-	10	9	TXEOUT2+
TXOOUT2+	12	11	TXEOUT2-
TXOCLK-	14	13	TXEOUT1+
TXOCLK+	16	15	TXEOUT1-
TXOOUT3-	18	17	TXEOUT0+
TXOOUT3+	20	19	TXEOUT0-

TX0- TX0+ — TX1+ TX1-

LVDS_EN

(LVDS & TMDS output)

+3.3V — R187 4.7K — R188 4.7K — SGND

CON104 6P — 12V-LCD1 — (To LCD panel) — SGND

EN3V — C225 0.1U 50V (D) — LVDS2_GND

EN3V — C226 0.1U 50V (D) — LVDS2_GND

L102 BEAD — SGND — LVDS2_GND

R182 OPEN

EN3V — C227 0.1U 50V (D) — LVDS2_GND

LVDS2_GND

LVDS2_GND

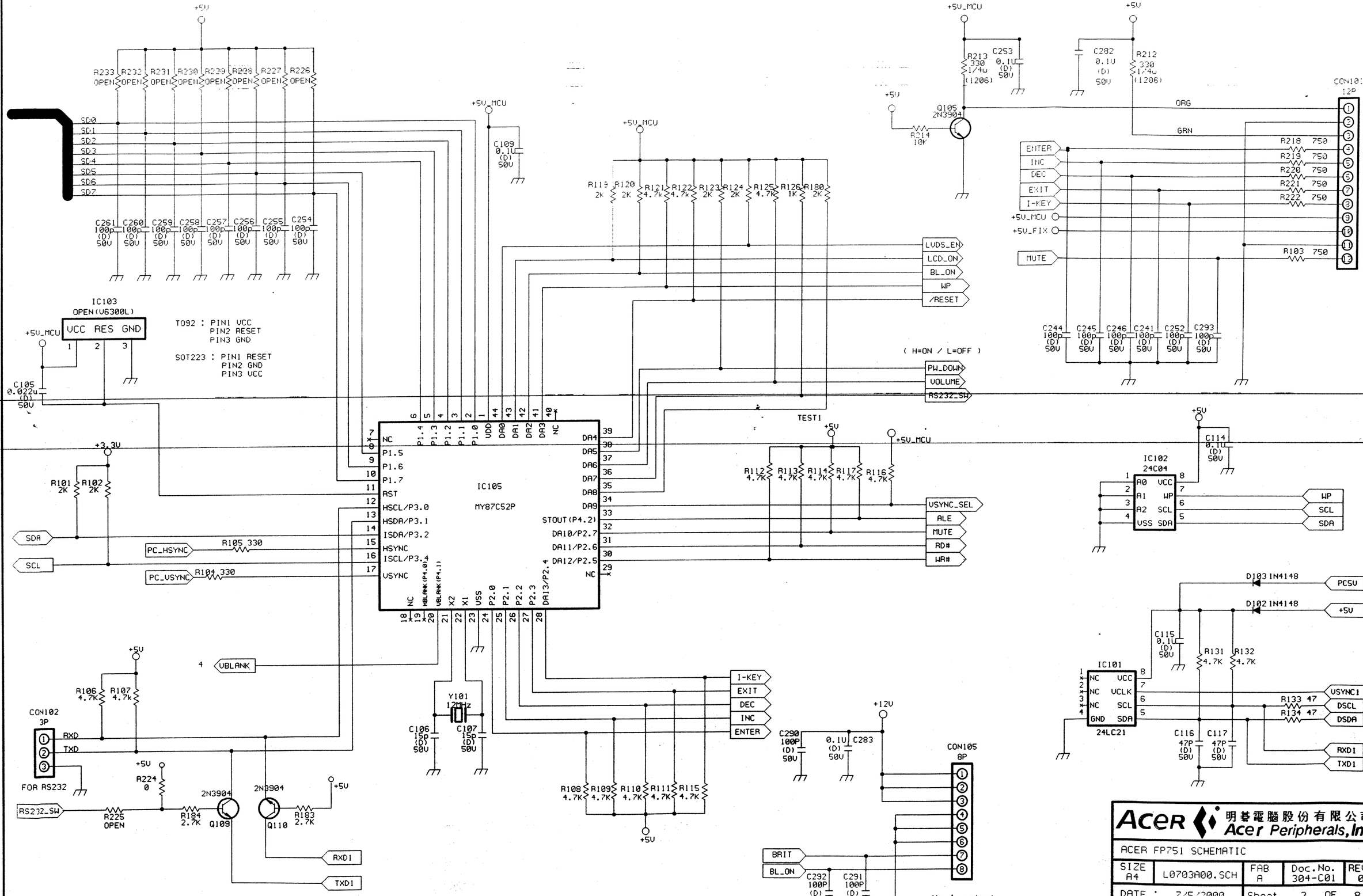
LVDS2_GND

LVCC1 — L117 BEAD (0603) — EN3V — C231 0.1U 50V (D) — +C232 22U 16V (EL) — LVDS2_GND

PVCC1 — L119 BEAD (0603) — C224 22U 16V (EL) — C233 0.1U 50V (D) — LVDS2_GND

ACER FP751 SCHEMATIC			
SIZE A4	L0703A00.SCH	FAB A	Doc.No. 304-001
DATE : 7/5/2000		Sheet 1 OF 8	REV. 0
Project Code.	99.L2271.001		
Prepared By	Reviewed By	Approved By	
CHRIS PENG	JAMES LIN	T.S.HU	

ACER 明碁電腦股份有限公司 Acer Peripherals,Inc.



NOTES: 1. Resistor values are in ohm, K=1,000 ohm, M=1,000,000 ohm

3. ⏚ ⏚ ⏚ Represents PCB common ground.

ACER FP751 SCHEMATIC				
SIZE A4	L0703A00.SCH	FAB A	Doc.No. 304-C01	REV. 0
DATE : 7/5/2000		Sheet 3 OF 8		
Project Code. 99.L2272.001				
Prepared By	Reviewed By	Approved By		
CHRIS FENG	JAMMY LIN	T.S.WU		

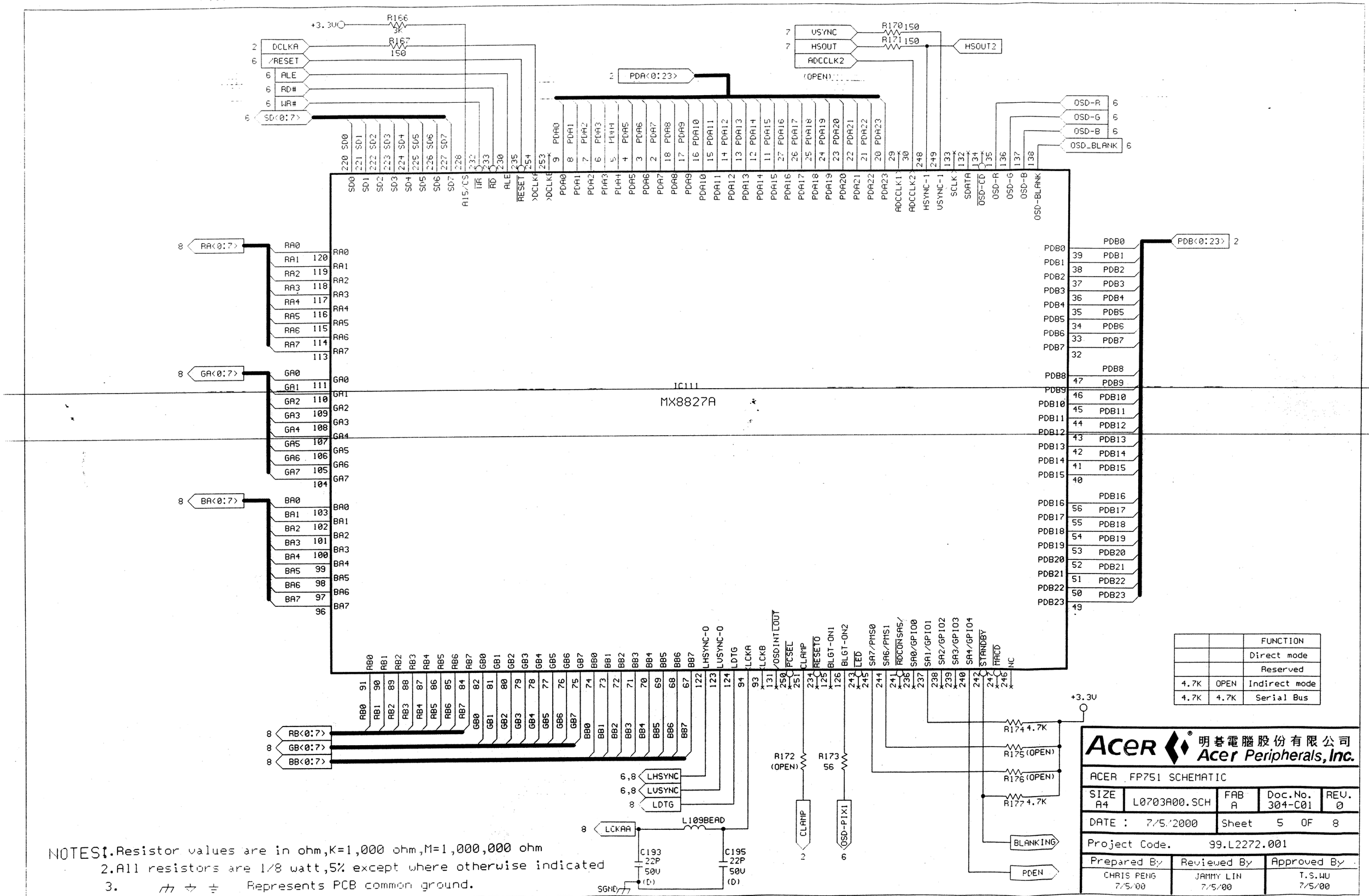
Acer 明碁電腦股份有限公司 Acer Peripherals, Inc.

IC107
AD9884

PDA<0:23> 3
PDB<0:23> 3

NOTES: 1. Resistor values are in ohm, K=1,000 ohm, M=1,000,000 ohm
2. All resistors are 1/8 watt, 5% except where otherwise indicated
3. ⏚ ⏚ ⏚ Represents PCB common ground.

ACER FP751 SCHEMATIC				
SIZE A4	L0703A00.SCH	FAE A	Doc.No. 304-C01	REV. 0
DATE : 7/5/2000		Sheet 4 OF 8		
Project Code. 99.L0271.001				
Prepared By	Reviewed By	Approved By		
CHRIS PENG 7.5.00	JAMES LIN 7.5.00	T.S.WU 7.5.00		



		FUNCTION
		Direct mode
		Reserved
4.7K	OPEN	Indirect mode
4.7K	4.7K	Serial Bus

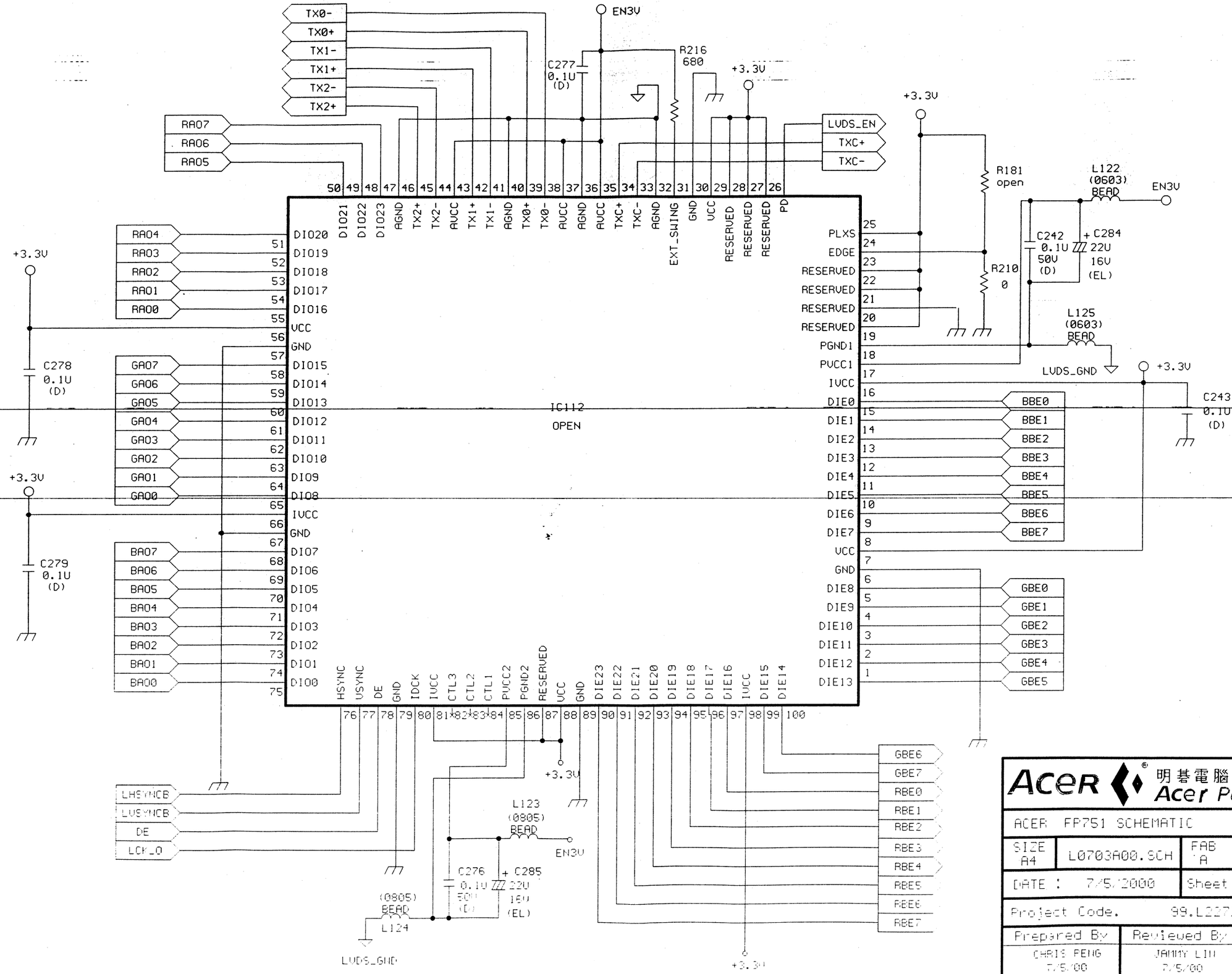
NOTES: 1. Resistor values are in ohm, K=1,000 ohm, M=1,000,000 ohm
2. All resistors are 1/8 watt, 5% except where otherwise indicated
3. ⏚ ⏚ ⏚ Represents PCB common ground.

明碁電腦股份有限公司
Acer Peripherals, Inc.

ACER FP751 SCHEMATIC

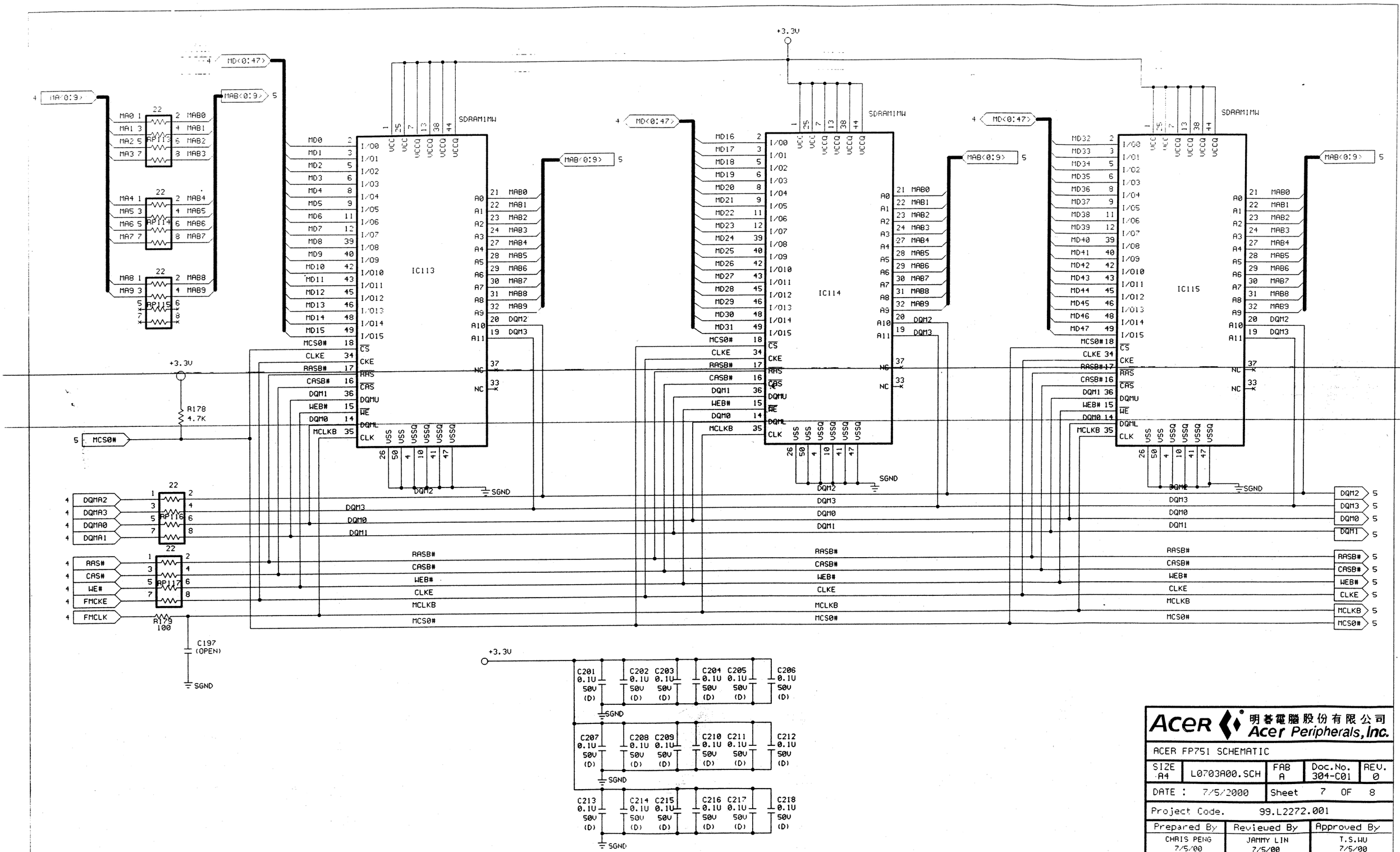
SIZE		FAB	Doc.No.	REV.
A4	L0703A00.SCH	A	304-C01	0
DATE : 7/5/2000		Sheet 5 OF 8		
Project Code. 99.L2272.001				

Prepared By	Reviewed By	Approved By
CHRIS PENG 7/5/00	JAMMY LIN 7/5/00	T.S.WU 7/5/00



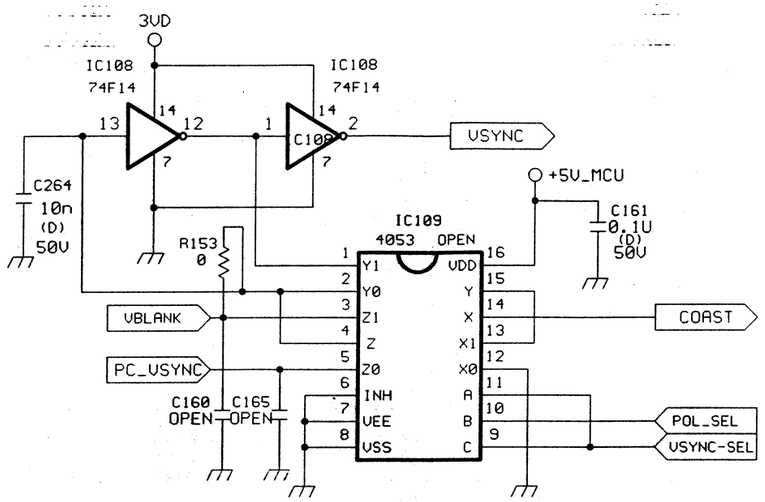
ACER FP751 SCHEMATIC				
SIZE A4	L0703A00.SCH	FAB A	Doc.No. 304-C01	REV. 0
DATE : 7/5/2000		Sheet 6 OF 8		
Project Code. 99.L2272.001				
Prepared By	Reviewed By	Approved By		
CHRIS PENG 7/5/00	JAMMY LIN 7/5/00	T.S.WU 7/5/00		

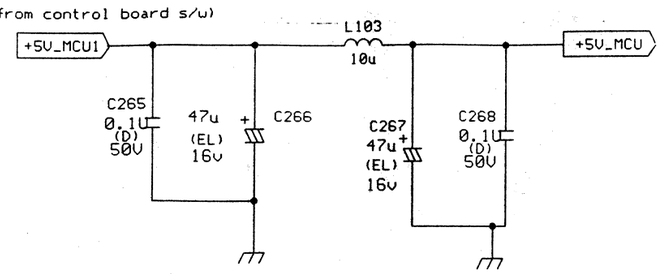
ACER 明碁電腦股份有限公司 Acer Peripherals, Inc.

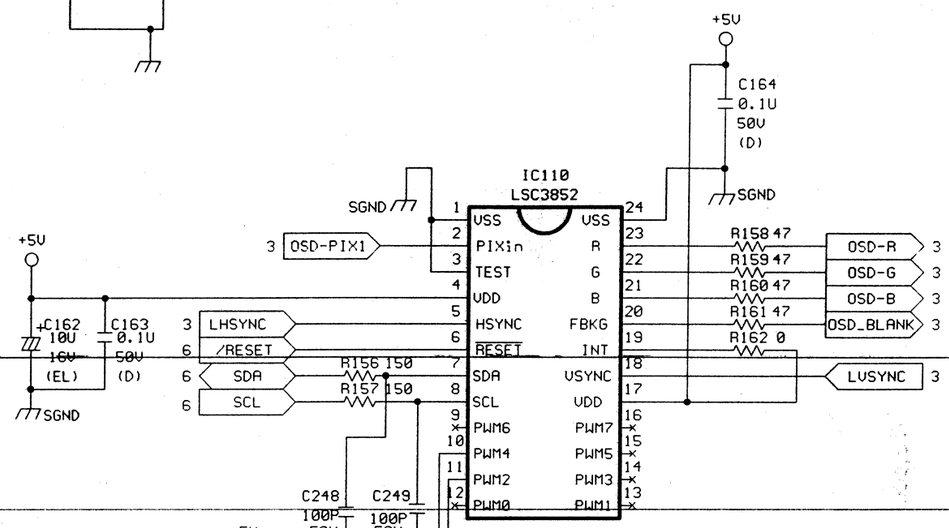


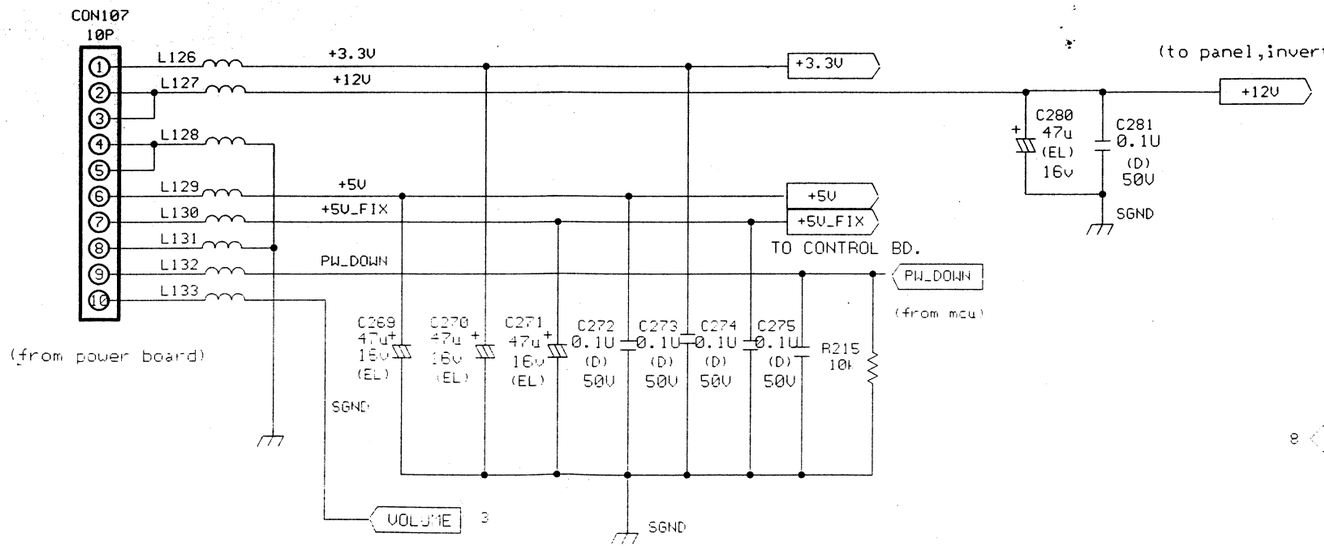
ACER FP751 SCHEMATIC				
SIZE A4	L0703A00.SCH	FAB A	Doc.No. 304-C01	REV. 0
DATE : 7/5/2000		Sheet 7 OF 8		
Project Code. 99.L2272.001				
Prepared By	Reviewed By	Approved By		
CHRIS PENG 7/5/00	JAMMY LIN 7/5/00	T.S.WU 7/5/00		

明碁電腦股份有限公司 Acer Peripherals, Inc.





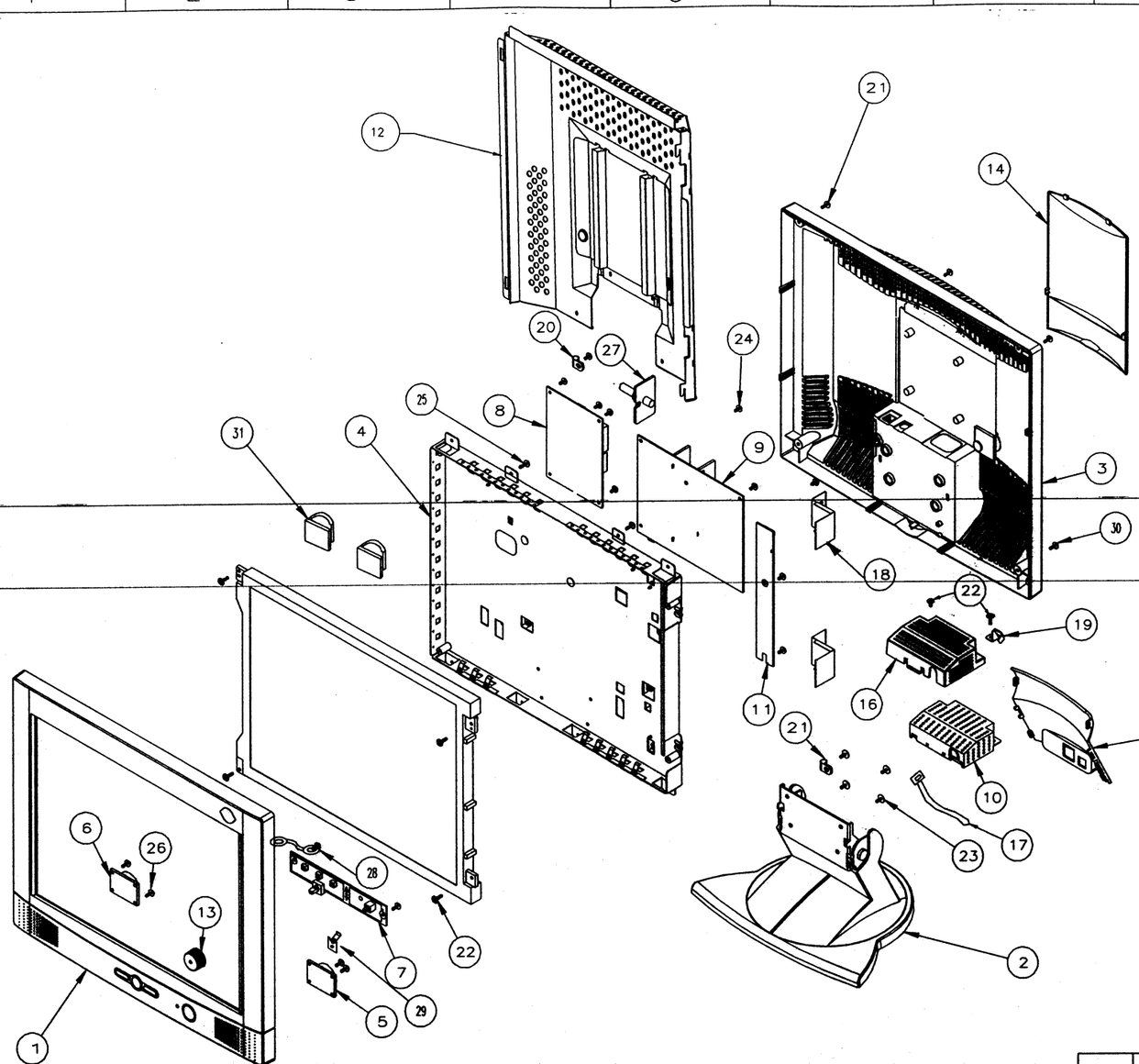




NOTES:1.Resistor values are in ohm,K=1,000 ohm,M=1,000,000 ohm
2.All resistors are 1/8 watt,5% except where otherwise indicated
3. ⏚ ⏚ ± Represents PCB_common ground.

ACER FP751 SCHEMATIC				
SIZE A4	LQ703A00.SCH	FAB A	Doc.No. 304-C01	REV. 0
DATE : 7/5/2000		Sheet 8 OF 9		
Project Code. 99.L2272.001				
Prepared By	Reviewed By	Approved By		
CHRIS PENG 7/5/00	JAMMY LIN 7/5/00	T.S.LIU 7/5/00		

ACER 明碁電腦股份有限公司 Acer Peripherals, Inc.



ITEM	PART NUMBER	DESCRIPTION	Q'TY
1	60.L0705.XXX	ASSY BEZEL	1
2	60.L0704.001	ASSY BASE	1
3	39.L0701.001	ASSY COVER REAR	1
4	60.L1601.001	ASSY BKT-R	1
5	65.LXXXX.001	ASSY SP+WIRE 370MM	1
6	65.LXXXX.001	ASSY SP+WIRE 200MM	1
7	55.L1402.001	CONTROL BD	1
8	55.L0703.001	INTERFACE BD	1
9	55.L1404.001	SPS BD	1
10	55.L1405.001	USB BD	1
11	54.05023.221	INVERT BD	1
12	60.L0706.001	ASSY SHD CVR	1
13	42.L1401.001	KNOB VR	1
14	42.L1403.001	CVR ACC	1
15	42.L1405.001	CVR BASE	1
16	42.L1407.001	CVR USB	1
17	38.05001.001	CABLE TIE YJ-98	1
18	31.L0702.001	SHD PANEL	2
19	31.L1301.001	CLIP BASE	1
20	34.74703.011	CLAMP CABLE	1
21	34.74803.001	CLIP CABLE	1
22	86.00110.140	SCREW M3X10	6
23	86.00010.161	SCREW TAPTILE M4X8	5
24	86.7A524.6R0	SCREW M3X6	19
25	86.WA314.8R0	SCREW M3X1.34P 8L	6
26	86.VG524.6R0	SCRW M3 TAP 6L	4
27	50.L1603.001	SIGNAL CABLE	1
28	50.JOXXX.001	CABLE	1
29	31.L0705.001	SPRING SPK	1
30	86.XA514.120	SCRW M3 FH TAP	4
31	42.L0703.001	CLIP FW-2	2
32			

REV	DESCRIPTION	SIGN	DATE

UNIT OR ASSEMBLY	FP751	NAME	ASSY DRAWING
DRN	CHARLES HO	MATERIAL	
DSN	CHARLES HO	FINISH	
CKD	AARON HO		
APPD	JIMMY HSIEH		
		Acer Peripherals. Inc.	

SCALE: DIM IN M.M
MOLD NO.
SHEET 1OF1
DRAWING NO. 99.L1672.001